CALIFORNIA STATE TEACHERS' RETIREMENT BOARD

INVESTMENT COMMITTEE

SUBJECT: General- Proposed 1999/00 Investment Branch Objectives

ITEM NUMBER: 9

ATTACHMENT(S): 3

ACTION: _____

DATE OF MEETING: July 7, 1999

INFORMATION: X

PRESENTER(S): Mr. Mitchell

EXECUTIVE SUMMARY

One of the general objectives contained in the CalSTRS Investment Management Plan is to conduct an annual planning session that includes an estimate of cash flows and an updated financial projection.

As part of the annual planning session, the proposed 1999/00 Investment Branch objectives have been provided as Attachment 1. To provide context, the 1997/98 objectives had dominant themes of re-allocation of assets to strategic targets and utilizing technology to improve the investment management process. Last year the objectives concentrated on the use of internal management and expansion of specialized programs such as securities lending, cash equitization, and credit enhancement.

The 1999/00 Investment Branch objectives highlight: (1) implementation of program modifications as approved by the Investment Committee, (2) enhancement of the risk control process both for the individual and total investment portfolio basis, and (3) concentration on quality control for internally and externally managed programs.

The proposed objectives can be deleted, modified or rearranged by the Investment Committee. Additional objectives may be included if desired. After the Investment Branch objectives are finalized, it is anticipated that status reports will be provided in November, February, and May to document progress achieved.

The 1998/99 Investment Branch objectives are provided as Attachment 2 as reference material.

Business plans for the major investment categories are included as Attachment 3. It is Investment Branch policy to update a business plan annually for Alternative Investments, Currency Hedging, External Equity, Home Loan, Internal Equity, Investment Operations, Long Term Fixed Income, Real Estate, Securities Lending, Short Term Fixed Income, and Soft Dollars. The implementation objectives identified in the respective business plan forms the basis for the Investment Branch objectives.

Staff plans to incorporate Attachment 3 as a primary component for orientation material to be distributed to future Board members.

1999 – 00 INVESTMENT OBJECTIVES
TIMELINE BY DIVISION

Attachment 1
Item 9
July 7, 1999

DIVISION	DESCRIPTION	MONTH	STATUS
ALTERNATIVE INVESTMENTS	Explore the feasibility and potential benefit of inclusion of developed Pacific Basin countries (Australia, Hong Kong, Japan, New Zealand, and Singapore).		
	Explore the feasibility and potential benefit of inclusion of emerging markets Latin American countries (Argentina, Brazil, Chile, Columbia, Mexico, and Venezuela).		
	Explore the feasibility and potential benefits of investment in under-serviced areas of U.S. metro areas larger than one million.		
	Explore the feasibility and potential benefit of diversification criteria including an allocation to first time funds.		
	Explore the feasibility and potential benefit of diversification criteria including an allocation to emerging technology venture funds		
	Explore and evaluate the use of a merchant banking concept for co-investments or direct investments		
CORPORATE GOVERNANCE	Explore, evaluate, and present a report on the appropriate method of selecting and/or approving allowable emerging market countries to be included in the active or passive emerging market portfolios.		
	In conjunction with the Chief Legal Counsel, develop a securities litigation policy including the review, evaluation, and initiation of class actions.		
	Evaluate the role of internal staff in implementing the business plan for international proxy voting and corporate actions.		

1999 – 00 INVESTMENT OBJECTIVES
TIMELINE BY DIVISION

DIVISION	DESCRIPTION	MONTH	STATUS
CREDIT ENHANCEMENT	Explore, evaluate, and report on working with a consortium of large public pension plans to provide credit enhancements on a national basis.		
	Design and develop a credit enhancement vehicle to be utilized in a multi-family housing program.		
	Explore, evaluate, and report on the viability of working with financial institutions to provide credit enhancement for securitized business loans for California companies.		
CURRENCY HEDGING	Evaluate the Currency Hedging Program in terms of the original objectives presented to the Investment Committee in July 1995. Include in the report a recommendation on the continued applicability of hedging currency concentrating on the risk control aspects.		
	Utilize additional currency risk management strategies such as the use of currency options to increase the efficiency of the Currency Hedging Program.		
EXTERNAL EQUITIES	Prepare, release, and evaluate Requests for Proposals for indexed domestic, international, and emerging market equities. The current contracts expire on January 31, 2000.		
	Report on the implementation results for the actively managed segment of the domestic equity portfolio comparing actual results to the projected figures contained in the October 1997 Investment Committee presentation.		
	Explore, evaluate and present a report on the viability of utilizing long/short domestic equity managers as a portion of the actively managed segment of the domestic equity portfolio		
	Explore, evaluate, and present a report on the viability of actively managed domestic equity portfolios with a corporate governance or management control overlay.		

1999 – 00 INVESTMENT OBJECTIVES
TIMELINE BY DIVISION

DIVISION	DESCRIPTION	MONTH	STATUS
FIXED INCOME	Explore, evaluate, and present the inclusion of high yield (junk) bonds in the fixed income portfolio. Elements presented should include: (1) role of high yield bonds, (2) strategic or opportunistic in nature, (3) internal or external management, and (4) appropriate performance benchmark.		
GENERAL	Complete an asset allocation review including the adoption of strategic targets and ranges for the major asset categories.		
	Revise the Investment Management Plan to reflect the modifications (if any) in the strategic asset allocation, investment objectives, and investment structure.		
	Prepare, release, and evaluate a Request for Proposal for the master custodian. The current contract expires on March 30, 2000.		
	Explore, evaluate, and present a report regarding the traditional and non-traditional risk measurement and control alternatives.		
	Evaluate, and present a report concerning the usage of S&P 500 Index options as a method for controlling investment portfolio risk and modifying asset allocation.		
	Review and revise the delegation of authority and authorized signers for the Investment Branch.		
HOME LOAN	Report on the revitalization of the Home Loan Program highlighting the progress achieved in implementing the business plan approved in September 1998.		
	Explore additional program enhancements concentrating on affordability issues such as no down payment and no points/no fee loans.		

1999 – 00 INVESTMENT OBJECTIVES
TIMELINE BY DIVISION

DIVISION	DESCRIPTION	MONTH	STATUS
INTERNAL EQUITIES	Report on the progress achieved in implementing the internal equity management plan approved in May 1999.		
	Report on the Cash Equitization Program identifying the results compared to March 1999 Investment Committee presentation		
	Utilize additional crossing systems such as Optimark or Lattice concentrating on increasing liquidity and reducing market impact.		
	Explore, evaluate, and present a report on the viability of managing a portion of the passive international portfolio internally.		
INVESTMENT OPERATIONS	Participate in the planning and implementation process as approved for new or modified investment programs to minimize the disruptions to existing functions, products, and programs.		
	Utilize technology to enhance or improve the investment process such as Bloomberg direct link or PORTIA software.		
	Evaluate enhancements to the real estate cash management program concentrating on the changes caused by the increase in geographic diversification and number of properties serviced.		
REAL ESTATE	Develop and present policy, procedures, and guidelines for the use of leverage in the moderate and high risk segments of the real estate portfolio.		
	Explore the viability of internal asset management for selected portions of the real estate portfolio such as the Pacific Northwest portfolio, California properties, or triple net leases.		
	Create and present a program for multi-family development and rehabilitation.		

1999 – 00 INVESTMENT OBJECTIVES
TIMELINE BY DIVISION

DIVISION	DESCRIPTION	MONTH	STATUS
REAL ESTATE (Continued)	Create and present a program for urban redevelopment projects in larger metro areas in the United States.		
	Create and present a program for single-family residential development concentrating on affordability issues.		
	Explore public real estate securities (REIT's) to determine the viability of including a public REIT component in the real estate portfolio.		
SECURITIES LENDING	Report on the progress achieved in implementing the securities lending business plan.		
	Prepare, release, and evaluate a Request for Proposal for securities lending vendors. The current contracts expire on January 31, 2000.		
SOFT DOLLAR	Report on implementation of the business plan concentrating on the progress of including the new domestic and international equity managers into the Program.		

1998 - 99 INVESTMENT OBJECTIVES
TIMELINE BY MONTH

Attachment 2
Item 9
July 7, 1999

The objectives for the 1998 - 99 fiscal year have been divided into categories identified below by month.

DIVISION	DESCRIPTION	MONTH	STATUS
EXTERNAL EQUITY	Complete a request for proposal for active and passive non-U.S. equity mandates to implement the non-U.S. equity strategy approved by the Investment Committee in May 1998	AUG 98	COMPLETED
REAL ESTATE	Present a recommendation to the Investment Committee regarding the appropriateness of performance based or incentive fees paid to the real estate managers for acquisition, management, and disposition of properties.	AUG 98	COMPLETED
ALTERNATIVE INVESTMENTS	Evaluate the dual role of the Alternative Investment consultant/advisor. Present a recommendation to the Investment Committee on the appropriate structure.	SEP 98	COMPLETED
REAL ESTATE	Complete a request for proposal for real estate mandates as approved by the Investment Committee to implement the overall real estate strategy.	SEP 98	COMPLETED
INVESTMENT OPERATIONS	Present a recommendation to the Investment Committee regarding foreign exchange transactions and cash balances for non-U.S. equity managers.	SEP 98	IN PROGRESS
CORPORATE GOVERNANCE	Review, revise, and present the Statement of Investment Responsibility and the Financial Responsibility guidelines for corporate investments as directed by the Investment Committee in November 1997.	SEP 98	COMPLETED
GENERAL - PHILOSOPHY	Complete Investment Management Plan which is designed to function as the blueprint for completion of the Policies for each investment function.	OCT 98	COMPLETED
GENERAL - REQUEST FOR PROPOSAL	The contract for general consultant is scheduled to expire April 30, 1999. A request for proposal (RFP) process for the consultant should be completed unless an extension to the existing contract is contemplated.	OCT 98	COMPLETED
ALTERNATIVE INVESTMENTS	Develop and justify the internal database selected to improve portfolio management, performance measurement, and management reporting.	OCT 98	COMPLETED

DIVISION	DESCRIPTION	MONTH	STATUS
INTERNAL EQUITIES	Present a recommendation to the Investment Committee regarding strategies for the equitization of cash for the domestic equity portfolio.	OCT 98	COMPLETED
EXTERNAL EQUITIES	Complete an Investment Committee presentation on emerging market equity including the role of active management including peer group comparisons, academic research, and performance benchmark.	NOV 98	COMPLETED
EXTERNAL EQUITIES	Review and revise the policies and procedures for the soft dollar program including domestic equity, non-U.S. equity, and fixed income portfolios. The review will include an analysis of the soft dollar purchases by external equity managers.	JAN 99	COMPLETED
ALTERNATIVE INVESTMENTS	Review the performance benchmark considering relative and absolute measures including a method to incorporate the increasing amount of non-U.S. investments. Present a recommendation to the Investment Committee on the appropriate benchmark(s) to used to evaluate the Alternative Investment Program.	FEB 99	COMPLETED
CORPORATE GOVERNANCE	Evaluate the viability of internal management of international proxy voting and global corporate actions .	FEB 99	COMPLETED
REAL ESTATE	Review and revise the strategy for moderate to high risk investments including opportunity funds and lease-up investments including performance objective, target, and range.	FEB 99	COMPLETED
ALTERNATIVE INVESTMENTS	Review and revise the policy for co-investments including performance objective, target, and range.	MAR 99	COMPLETED
EXTERNAL EQUITIES	Coordinate the funding, allocation, reallocation, and transition of the domestic equity portfolios controlling transaction costs while implementing the comprehensive plan approved by the Investment Committee in October 1997.	MAR 99	COMPLETED
FIXED INCOME	Review the characteristics of an effective performance benchmark and evaluate the validity of the benchmark currently being used within fixed income. Present findings and a recommendation to the Investment Committee.	MAR 99	COMPLETED

DIVISION	DESCRIPTION	MONTH	STATUS
GENERAL - REQUEST FOR PROPOSAL	The contract for master custodian is scheduled to expire March 30, 2000. A request for proposal (RFP) process for the custodian should be completed unless an extension to the existing contract is contemplated.	APR 99	INCLUDED IN 1999/00 OBJECTIVES
CREDIT ENHANCEMENT	Complete an Investment Committee presentation evaluating the relative success of the credit enhancement program as described to the Investment Committee in May 1994. Review and revise the business plan as necessary.	APR 99	COMPLETED
INTERNAL EQUITIES	Evaluate the relative success of the internal equity management program including ancillary benefits described in the October 1997 Investment Committee presentation. Present a recommendation to the Investment Committee on the appropriate amount of funds to be managed internally in the S&P 500 Index portfolio.	MAY 99	COMPLETED
SECURITIES LENDING	Implement the internal securities lending program as approved by the Investment Committee in June 1998.	MAY 99	IN PROGRESS
GENERAL - BUSINESS PLAN	The alternative investment and real estate staff were directed to complete an annual "business plan". Should a business plan for each operating unit be completed and presented?	JUN 99	COMPLETED
GENERAL - POLICIES	Decisions made regarding Board governance, require policies be reviewed and revised (if necessary) to insure completeness and consistency for alternative investments, corporate governance, credit enhancement, currency hedging, external equity, fixed income, internal equity, liquidity, real estate, securities lending, and soft dollars.	JUN 99	COMPLETED
GENERAL RISK MANAGEMENT	Evaluate the need for educational seminars regarding the identification and control of traditional and non-traditional risk measurement.	JUN 99	INCLUDED IN 1999/00 OBJECTIVES
FIXED INCOME	Implement the revitalization of the Member Home Loan Program including selection of vendors and coordination of legislative changes to increase loan volume to recommended levels.	JUN 99	COMPLETED
INVESTMENT OPERATIONS	Participate in the planning and implementation process as approved for the domestic equity, international equity, and securities lending programs to minimize disruptions to existing functions, products, and programs.	JUN 99	COMPLETED

California State Teachers' Retirement System
Alternative Investments
Business Plan

I. Portfolio Role and Purpose

The primary objective of the Alternative Investment portfolio is to provide enhanced returns over those of the public market. The strategy is to invest in limited partnerships including venture capital, leveraged buy-outs, and special situations, and to purchase secondary interests and co-investments.

II. Historical Overview

The decision to design an Alternative Investment program for CalSTRS was made after receiving a positive recommendation from the general pension consultant after conducting a comprehensive asset allocation study. Five percent of CalSTRS' assets are allocated to the Alternative Investment program.

The foundation for CalSTRS' Alternative Investment program was established with the development of the Policy and Procedures Manual in 1988. The manual prescribed a diversified program of investing in limited partnership interests in venture capital, leveraged buy-out, and special situation funds. The first alternative investment commitment was made in April 1988.

In 1993, the Investment Committee approved an international component for the Alternative Investment portfolio. The private equity markets in Europe and Asia were still relatively young, and the anticipated growth of the economies of these regions suggested a higher expected rate of return than for domestic partnerships. CalSTRS made its first international commitment in the first quarter of 1994 to a UK fund, and currently has commitments to six international partnerships.

In June 1998, the Investment Committee reviewed and approved the revised Alternative Investment Policy and Procedures Manual. Enhancements to the Alternative Investment program were approved as follows:

- Proposed targets and ranges were identified for each market segment of the portfolio.
- The Investment Committee delegated authority to staff to make investments meeting specific criteria.

In August 1998 the Investment Committee approved a tiering model which was developed by staff to facilitate management of the Alternative Investment portfolio. The purpose of the tiering model is to create a tool that will assist staff in the on-going monitoring and due diligence process of the Alternative Investment portfolio. Specifically, the tiering model will encourage staff to guide the portfolio toward future investments in its best performing partnerships, and will direct the selection of new partnerships with specific quantitative and qualitative objectives. This is accomplished through an on-going monitoring and due diligence process that categorizes CalSTRS' partnerships by tiers. A list of CalSTRS' partnerships with their respective scores will be presented for discussion in closed session.

1. Tier one partnerships are the best performing partnerships with superior investment returns and offering potential for co-investment opportunities.

2. Tier two partnerships are partnerships that do not have a long enough track record to be effectively rated, or partnerships with average investment performance. Improved performance may qualify a Tier two partnership to be moved to the Tier one category.

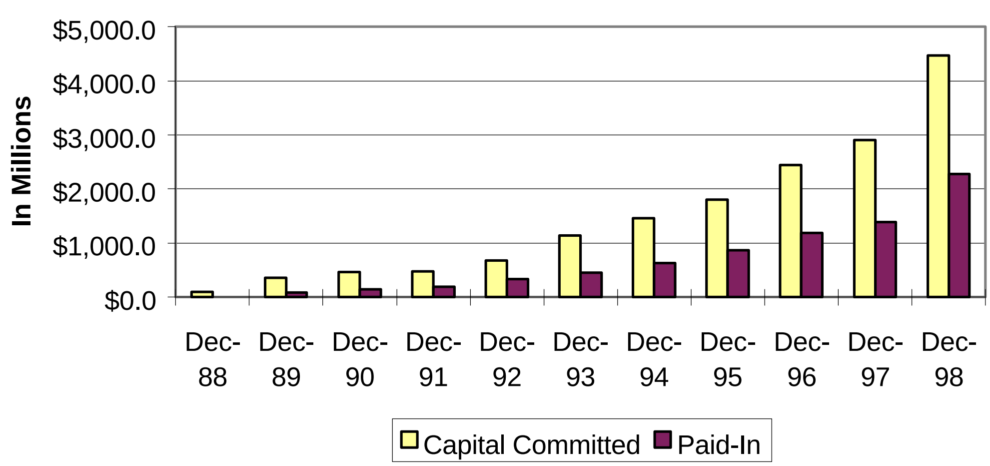
3. Tier three partnerships are partnerships with poor investment performance. It is unlikely that staff would consider follow-on investments with partnerships that fall into this category.

In February 1999, the Investment Committee approved a benchmark for the Alternative Investment portfolio. Performance will be compared with the dollar weighted return for the Russell 3000 plus 500 basis points – adjusted for the latest three years contributions at the 3-month T-bill return. The Committee directed Staff to continue to utilize the Venture Economics Vintage Year Database to determine how well specific managers are performing.

III. Current Status

As of December 31, 1998, CalSTRS has committed $4.5 billion to 75 partnerships and two co-investments. The portfolio has an estimated market value of approximately $2.3 billion. As shown below, approximately $2.3 billion, or 51% of commitments, has been funded.

Alternative Investment Portfolio
Commitment and Funding History
December 31, 1998



The growth in the amount committed to new partnerships has accelerated along with the size of the new funds. The growth in fund size is the result of a combination of the increased valuation of the domestic equity market and the type of funds considered. The growth in the amount funded reflects the seasoning of the limited partnerships in CalSTRS' portfolio as they enter the prime investment cycle.

IV. Performance Measurement

There is no universally recognized benchmark for alternative investments. Therefore, during 1998, Staff developed a customized benchmark for comparative measurement to the alternative investment asset class. The custom benchmark was designed to establish a clear performance objective and to measure the ongoing progress of the investment program.

The customized benchmark is a blended, dollar-weighted[1] benchmark comprised of 1) the Russell 3000® Index ("Russell 3000") and; 2) a Treasury bill return for capital contributions less than three years old. A 500 basis point premium is added to this blended benchmark to account for the additional illiquidity and risk involved with private equity. CalSTRS will continue to utilize the *Venture Economics' Vintage Year Comparison* by generation, such as the median IRRs and/or upper quartile IRRs to measure the performance of each of the individual partnerships in the portfolio.

To generate the customized benchmark, an IRR is calculated for a cash flow stream comprised of the investments made to the CalSTRS alternative investment portfolio and a hypothetical terminal cash flow value is created by compounding those investments by the return of the Russell 3000. However, contributed capital less than three years old is instead calculated with a growth factor that is based upon the applicable Treasury bill rate.

The following table provides a summary of the results of the benchmark compared against the net IRR of the CalSTRS alternative investment portfolio over the same time periods.

Dollar-Weighted Russell 3000 Benchmark Comparison
To the CalSTRS Alternative Investment Portfolio as of 12/31/98

	3 Year	5 Year	10 Year	Inception
CalSTRS Net IRR	30.80%	26.90%	22.10%	22.10%
$-Wghtd. R-3000+500bpt.[2]	19.64%	19.95%	21.70%	21.70%

CalSTRS will also continue to utilize median IRR data for alternative investment partnerships with similar strategies formed during the same vintage year. The vintage year median IRRs of similar partnerships will continue to be reported on a generational basis. Since data is available on

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[1] Because a time-weighted rate of return ("TWRR") and a dollar-weighted rate of return are not directly comparable, the customized benchmark incorporates a dollar-weighting adjustment in its calculation. In other words, the customized benchmark assumes CalSTRS would have invested the same amount of capital into the Russell 3000 as it actually did into alternative investments over the same time period.

[2] With adjustment for Treasure bill return for cash flows less than three years old.

specific alternative investment strategies, this benchmark can provide additional value by comparing it against the most relevant portions of the CalSTRS alternative investment portfolio. The following table provides a summary of the results of the Venture Economics Vintage Year Database compared against the net IRR of the CalSTRS alternative investment portfolio since inception through December 31, 1998.

Venture Economics Vintage Year Database Benchmark Comparison To the CalSTRS Alternative Investment Portfolio as of 12/31/98

Venture Capital	CalSTRS' Net IRR	Median IRR Vintage Year Comparison
1989 Generation	11.6%	10.1%
1990 Generation	31.8	9.6
1992 Generation	37.3	14.1
1993 Generation	33.0	11.7
1994 Generation	4.4	20.0
1995 Generation	44.8	17.2
1996 Generation	40.7	10.0
1997 Generation	15.4	-0.4
1998 Generation	-6.8	-9.5

Special Equity	CalSTRS' Net IRR	Median IRR Vintage Year Comparison
1987 Generation	58.4%	10.9%
1988 Generation	14.5	12.4
1989 Generation	18.9	15.8
1990 Generation	16.6	14.9
1991 Generation	17.8	14.9
1992 Generation	28.2	19.4
1993 Generation	24.3	18.1
1994 Generation	33.7	15.7
1995 Generation	12.5	5.0
1996 Generation	38.8	11.5
1997 Generation	11.8	-5.7
1998 Generation	-9.7	-15.6

The tables above show that the CalSTRS alternative investment portfolio has outperformed the median IRR vintage year comparison in most generations.

V. Key Issues

1. **Manager Selection**: One of the major issues facing institutional investors is the challenge to make large enough investments to satisfy portfolio allocations to Alternative Investments. The top performing limited partnerships are typically oversubscribed prior to marketing the fund. General Partners of these funds "scale-back" limited partner commitments in order to accommodate numerous commitments. CalSTRS is developing stronger relationships with its Tier 1 General Partner teams in an effort to be a more significant investor with larger commitment amounts. Stronger relationships are being developed by:

    - Active participation on advisory boards of most key partnerships.
    - Visiting general partners more often than in the past.
    - Encouraging general partners to visit CalSTRS more often.
    - Expressing strong interest in becoming a co-investor and purchaser of secondary interests with the General Partners.

    Further, Staff and the Alternative Investment Advisor are actively using the tiering model in the on-going monitoring of investments and due diligence review of potential investments. As mentioned earlier, the tiering system encourages Staff to steer the alternative investment portfolio towards future investments in its best performing managers. This is accomplished through an on-going monitoring and due diligence process that categorizes CalSTRS' managers and partnerships by tiers. Tier 1 managers are CalSTRS' best performing managers. Ideally, Staff would like to maximize the amount of capital available to invest with these managers going forward.

    New manager selection is based on the same screening criteria that is used to tier existing portfolio managers. Staff is negotiating minimum commitments of 10% to any new managers. This is an important aspect of the implementation of the program in order to achieve the allocation objectives of the fund while maintaining a manageable number of partnerships and getting a larger pro-rata share of co-investments offered by the General Partners.

2. **Secondary Interests**: Competition is fierce for secondary interests. These investments are usually conducted through an auction process and are awarded to the highest bidder. Prospective investors include institutional investors, funds of funds, and the limited partner base. Staff has informed its current General Partners that CalSTRS is actively pursuing secondary interest opportunities. Additionally, staff is negotiating pre-emptive rights for existing Limited Partners in new limited partnership agreements.

3. **Co-investments**: The primary purpose of the co-investment program is to enhance the Alternative Investment portfolio return. Co-investments will be made side-by-side with the limited partnerships. The Investment Committee approved the revised co-investment policies at the April 1999 Investment Committee Meeting.

    In order to effectively implement this program, it will be necessary to develop a pool of qualified contractors to fulfill the alternative investment advisor and/or independent fiduciary role established by the co-investment policies. The contractors will review the due diligence conducted by the general partners on the proposed co-investment to ascertain that it is appropriate. The contractors will recommend other areas of due diligence investigation where appropriate. The contracts will be evergreen in nature, and the price paid for each transaction review would be determined on a case by case basis.

The services provided by the contracts require the highest degree of specialized industry knowledge and expertise. The background and expertise of the principals assigned to the CalSTRS' contract will be critical to staff's decision to award a contract. The contractors will essentially be providing a "product of the mind." As a result, staff is requesting approval to exempt these contracts from the disabled veterans participation requirements.

4. **International Investments**: Staff and the Alternative Investment Advisor believe that international investing should continue to represent a meaningful portion of the alternative investment portfolio. The fundamental assumption is that these investments have the potential to provide superior returns. Staff will monitor the investment environment and evaluate opportunities with the same criteria and guidelines that are used to select the best performing investments in the domestic market.

VI. Diversification Criteria

The following portfolio ranges and targets were reviewed and approved at the April 6, 1999 Investment Committee meeting concurrent with the revision of the Alternative Investment policy.

Alternative Investments Sub-Category	Proposed Ranges	Proposed Targets	Actual
Buy-out	50-70%	60%	61.9%
Venture capital	10-20%	16%	14.3%
Debt related	0-10%	2%	6.4%
Equity expansion	5-15%	7%	5.2%
International Buy-Out (Canada and Continental Europe)	10-20%	15%	12.2%
Total		100%	100%

VII. Staffing Issue

Two Investment Officer positions were approved for the Alternative Investment program at the April 1999 Investment Committee meeting. Hence, no additional staff will be necessary for the next year.

VIII. Reporting

The following changes to the reporting process are proposed to provide appropriate information to the Investment Committee regarding overall investment activity and monitoring of the successful implementation of the Business Plan.

- Monthly: No changes to the current format
  Report information on a five year reporting period. Co-investments and secondary interests are reported as separate items.

- Quarterly: Includes monthly report and decisions made under delegated authority
  Summary of Allocations and Targets
  Summary of portfolio by market segment

CALIFORNIA STATE TEACHERS' RETIREMENT SYSTEM

CREDIT ENHANCEMENT PROGRAM

BUSINESS PLAN-FISCAL YEAR 1999/00

I. <u>PORTFOLIO FUNCTION AND STRATEGY</u>

The Credit Enhancement Program is an Off-Balance Sheet component of the CalSTRS Investments, enabling CalSTRS to use its existing asset base and liquidity strength to generate fee income. The primary role of Credit Enhancement is to provide fee income.

II. **<u>DESCRIPTION AND DEFINITIONS</u>**

A credit enhancement is a substitution of a highly rated financial institution's credit rating for that of a lower rated public or private entity. It is an agreement by a third party to pay the investor any scheduled interest and/or principal payments in the event the primary obligor does not pay. This substitution (for a fee) allows the public or private entity access to the capital markets and permits them to pay a lower interest rate to investors.

Credit enhancement transactions normally utilize financial instruments known as Letters-Of-Credit (LOC). A LOC is an unconditional promise to make payments up to a stated amount for a specified period upon receipt of a proper notice. The commitment is irrevocable. The following are the types of LOCs that CalSTRS utilizes:

<u>Direct Pay Letters of Credit (LOC)</u>

For this letter of credit, the investor (through the trustee) looks to the Direct Pay LOC Bank for all interest and principal payments to investors. The obligor (company or municipality seeking credit) then reimburses the Direct Pay Bank. If the obligor fails to reimburse CalSTRS for the LOC drawing, the bank taking a direct interest in the issuer's creditworthiness reimburses CalSTRS.

<u>Confirming Letters of Credit</u>

For this LOC, the investor (through the trustee) looks to the bank supporting the obligor to make the interest and principal payments to investors. If the bank fails to make these payments, the trustee calls upon CalSTRS to make the payment. CalSTRS would then turn around and demand reimbursement from the bank.

<u>Liquidity Facility</u>

This form of LOC is an availability to pay the purchase price upon a bondholder exercising a put option. The bonds or commercial paper that this facility supports may be remarketed on a daily, weekly, or monthly basis and need to have their marketability guaranteed. If there is a failed remarketing, CalSTRS may be required to "purchase" these bonds and receive an agreed upon rate of interest payments. In the case of commercial paper, this commitment may be revocable under certain circumstances.

Trustee
A financial institution with fiduciary responsibilities to bondholders (investors) to make principal and interest payments as well as administer all other aspects of the bond indenture.

Bond Indenture
An agreement between an issuer of bonds and the bondholder setting forth the terms of the bonds. The indenture also provides for the appointment of a trustee to act on behalf of bondholders.

III. HISTORICAL OVERVIEW

In 1992, The California State Teachers' Retirement System (CalSTRS) commenced a study to determine the feasibility and prudence of establishing a Credit Enhancement Program in order to earn incremental fee income for the System. In May 1993, the Investment Committee authorized the funds to secure credit ratings from Standard & Poor's (S&P) and Moody's (the two most widely respected credit rating agencies.) Subsequently, STRS has received a AA+ long term rating and a A1+ short term rating from S&P, a Aa2 long term rating and a P1 short term rating from Moody's, and a AA+ long term and F1+ short term rating from Fitch. Policies and procedures for the Credit Enhancement Program were first completed and approved in February 1994 and most recently updated in January 1998.

During the May 1993 presentation to the Investment Committee, the Credit Enhancement Program targets were identified as:

5 Year Target for Outstanding Balances - $1 Billion per annum
(2% of a $50 billion portfolio at that time)

5 Year Target for Fee Income - $2 Million per annum (20 bp)

STRS executed its enhancement in June of 1994 when it provided a $25 million liquidity facility in favor of the Port of Long Beach.

Since the first transaction, CalSTRS has aided almost 80 California issuers and supported the creation of over 3,000 California jobs. CalSTRS has provided credit enhancement for 60 industrial development bonds, two multi-family housing bonds, two pollution control bonds, several municipalities, two healthcare related bonds, and several other private activity bonds. Further detail on these transactions is included in Section IV, Current Status.

IV. <u>CURRENT STATUS</u>

The Credit Enhancement Program has evolved over time by "word-of-mouth" without an active marketing effort. Disruptions in the capital markets, primarily the Asian emerging markets have created dislocations in financial institutions worldwide. Many investors in the markets are developing a preference for CalSTRS as a credit enhancer because it is perceived as being highly stable. CalSTRS has a good flow of transactions in the pipeline.

- As of February 1999, total commitments were $512 million and annual fee income has a run rate of $1.4 million, or 27 bp.

- As of Februrary 1999, the pipeline for credit enhancement is approximately $250 million at an expected fee income of 20 bp, or $.5 million.

- *At the five year mark, the Credit Enhancement Program is expected to be on track for the goal of earning fee income at a rate of $2 million per year set 5 years ago!*

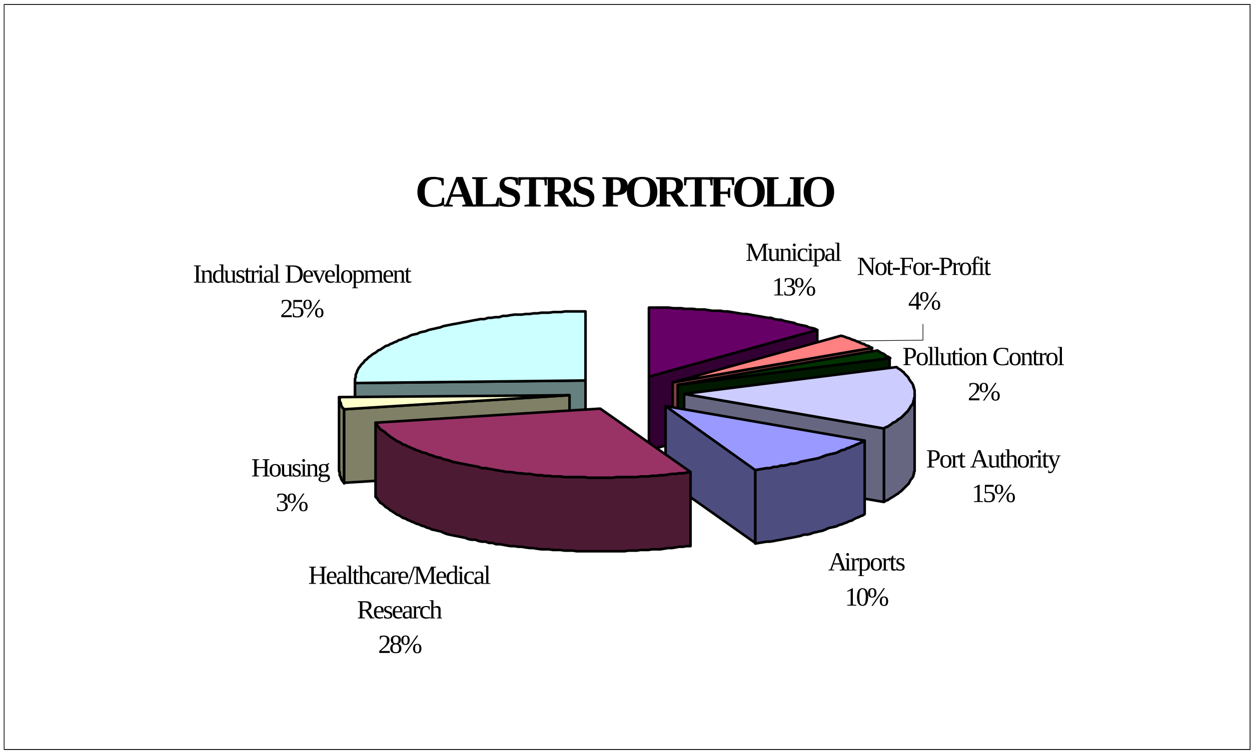
- Annual business expense runs at approximately $60,000 for rating agency fees. Approximately 1 FTE divided over 3 people have been required over the past 3 years. However, additional staffing is needed. This will be discussed later.

- Total fee income since 1994 stands at $3.4 million.

- *Total fee income reinvested at CalSTRS' quarterly return rate stand at $4.5 million. <u>$1.1 million</u> has been earned from reinvestment of fee income.*

PORTFOLIO CONSTRUCTION

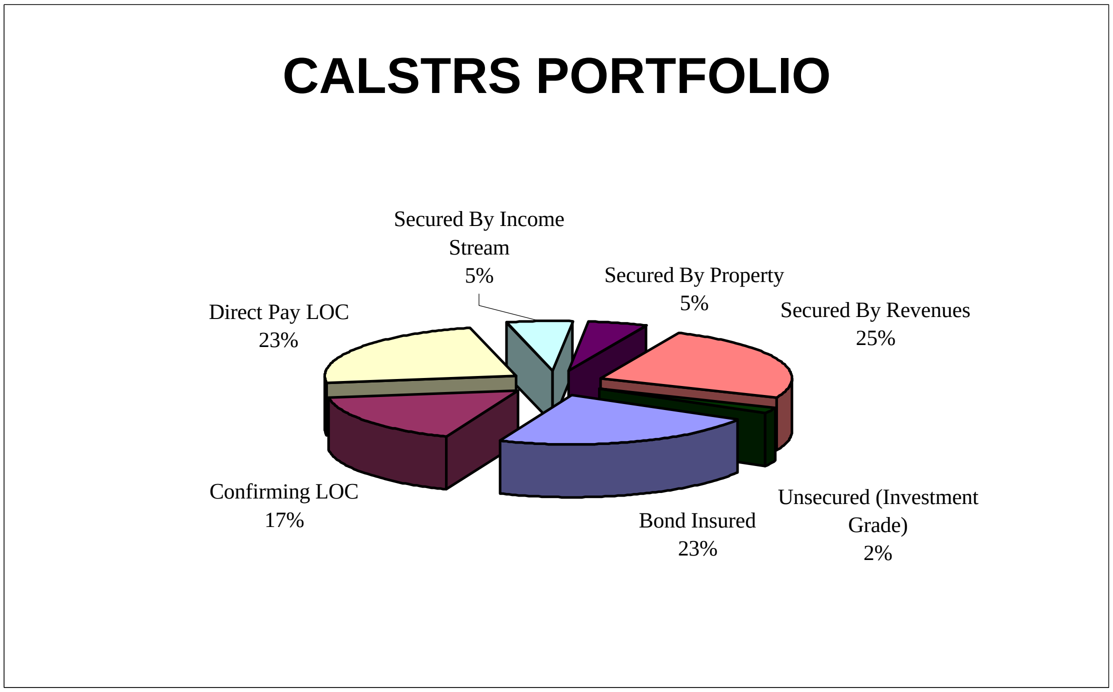
Market Sector



Sector	($Mil) Outstandings	% of Portfolio
Airports	$52	10%
Healthcare/Medical Research	$144	28%
Housing	$15	3%
Industrial Development	$130	25%
Municipal	$67	13%
Not-For-Profit	$19	4%
Pollution Control	$10	2%
Port Authority	$75	15%
	$512	100%

Portfolio By Structure

Bond Insured	23%	$116
Confirming LOC	17%	$86
Direct Pay LOC	23%	$119
Secured By Income Stream	5%	$28
Secured By Property	5%	$26
Secured By Revenues	25%	$127
Unsecured (Investment Grade)	2%	$10
	100.0%	$512



INDUSTRY OVERVIEW

Industry Profile

The credit enhancement opportunity set evolves as interest rates change and the infrastructure needs of the country change. The following is an indication of the market for a six-month period for the first half of 1998. It gives the reader an idea of the kinds of municipal bond credit enhancement market for that period of time.

UNITED STATES MUNICIPAL BOND ISSUANCE FIRST HALF OF 1998

		Volume $000	No. of Issues
Development	5.7%	$ 1,062,800	71
Education	20.0%	$ 3,757,200	167
Electric Power	3.7%	$ 705,200	7
Environmental	4.4%	$ 828,200	25
Health Care	9.1%	$ 1,720,800	32
Housing	10.0%	$ 1,887,000	92
Public Facilities	3.6%	$ 685,000	29
Transportation	10.2%	$ 1,922,700	21
Utilities	9.2%	$ 1,724,300	44
General Purpose	24.0%	$ 4,516,100	95
	100.0%	$ 18,809,300	

Market Opportunities

The credit enhancement universe is domiciled by bond insurers and/or other financial institutions. The bond insurance segment of the market normally enhances fixed rate securities for 20-30 year commitments. The fee is paid upfront to cover the credit risk for the term of the bond. Returns to the bond insurers include reinvestment returns over that term of the bond. If the bond is called and the issuer refinances the bond, the original fee is kept and a new fee is charged for the new bond issue.

Other financial institutions, primarily banks, are the dominant players in the variable rate security credit enhancement market. Fees are normally paid on a quarterly basis, and the securities are remarketed, normally on a weekly basis. The credit enhancement vehicle is normally both liquidity and credit. The credit enhancer must be willing to step in, in the event of a serious market disruption to purchase the bonds for a brief period of time. Normally, the fees charged to the issuer are sufficiently onerous to make this an infrequent event. CalSTRS has yet to purchase bonds in this capacity in almost 5 years.

The market opportunities for credit enhancement are influenced by several factors:

- Infrastructure growth which is influenced by population and economic growth, (see the following demographic data for California.)

- Interest rates frequently determine the issuer's appetite for fixed rate or variable rate bonds. When rates are relatively high, issuers will frequently issue variable rate debt with the intention of refinancing the debt when rates return to lower levels. Conversely, when rates are low, issuers will frequently issue fixed rate bonds for 20-30 years to lock in the fixed rates.

- Certain sectors are dominated by short term lenders, (e.g. banks) which only support transactions in a variable rate mode. Hence, industrial development bonds which are the province of banks, almost always come to market in a variable rate mode.

- Federal laws which govern the dollar amount of private activity bonds (multifamily housing, pollution control and industrial development) which currently stands at $50 per capita of state population ($1.6 billion total). There is currently federal legislation that, if passed, would raise the eligible amount for California to $75 per capita ($2.5 billion total). 1999 requests for private activity financing from the California Debt Limit Committee were approximately $4.8 billion.

While it is unknown exactly how the above variables will combine to shape the demand for credit enhancement over the next several years, it is certain that there will be continued and probably an increasing need based on California demographics as shown below.

DEMOGRAPHIC PROJECTIONS

DEPARTMENT OF FINANCE DEMOGRAPHIC PROJECTIONS

	California Population	% Increase from 1998
1998	33,506,406	
2010	39,957,616	19.3%
2020	45,448,627	35.6%
2030	51,868,655	54.8%
2040	58,731,006	75.3%

DEPARTMENT OF FINANCE DEMOGRAPHIC PROJECTIONS FOR CALIFORNIA SCHOOL ENROLLMENT

	Actual 1998 Enroll	Projected 2007 Enroll	Projected Increase	% Increase
Community Colleges	1,475,711	1,820,194	344,483	23.34%
Public School K-12	5,733,581	6,180,921	447,340	7.80%
Totals	7,209,292	8,001,115	791,823	10.98% wtd.avg.

As the above demographic projections indicate, the state population will increase by 19.3% over the next 11 years. This increase in population will be acutely felt by California public schools which are expecting a 10.98% enrollment growth, or an added 791,823 students in just eight years.

V. **PERFORMANCE MEASUREMENT**

Credit Enhancement is an off-balance sheet investment activity that is pursued for the purpose of earning fee income on an opportunistic basis. The fee income is pursued on an *expected zero loss basis*. Risk minimization is a desired objective which may result in lower fees, which is acceptable. The objectives that follow later in the business plan have outstanding and income goals for the next five years. However, the primary objective is zero losses. The following chart shows industry performance over the past five years.

ZERO LOSS INDUSTRY STANDARD

Loss and Loss Expense Incurred by Bond Insurers*

	1997	1996	1995	1994	1993
Total P&I Exposure	$1.2 Tril	$1.1 Tril	$.9 Tril	$.8 Tril	$.6 Tril
Total Loss & Loss Exp	$52 Mil	$19 Mil	$34 Mil	$ 7 Mil	$13 Mil
% Loss Total	.00426%	.00179%	.00365%	.00090%	.01084%

* Bond insurers included in this S&P report are as follows: FGIC, MBIA, Connie Lee, FSA, Capital RE, Enhance Re, Asset Guaranty, Ambac

VI. **Key Issues**

A. Primary goal is to earn fee income by providing more California entities access to the capital markets by using the following vehicles:

- California Schools Credit Enhancement (Development Stage, presentation expected June 1999)
  - Short-term funding program – Providing capital market funding for school planning, site development, & acquisition financing
  - Permanent financing program – Providing financing for buildings and school rehabilitation
- California Multifamily Housing Projects (Development Stage, presentation expected September 1999)
  - Assist mid-level credit quality financial institutions provide construction and mini-term financings for multifamily housing

- Assist in the financing of single family and multifamily housing through the liquidity and/or credit enhancement of the California Housing Finance Agency (CHFA)

- California Municipal Finance (Ongoing Activity)

  - Assist bond insurers and mid-level credit quality financial institutions provide credit enhancement to local governmental entities

- California Industrial Development (Ongoing Activity)

  - Assist mid-level credit quality financial institutions provide credit enhancement for companies eligible for industrial development bonds

B. <u>Secondary goal is to earn fee income by working with a consortium of public U.S. pension funds to provide a national market for credit enhancement to support infrastructure development in the United States. California would be served by such a consortium.</u>

- CalSTRS has been approached by a large financial institution that is interested in working with a number of large U.S. public pension funds to provide credit enhancement on a national basis.

- The financial institution is motivated to evolve their credit enhancement program into a fee generation and servicing business to maximize their business returns. The bank would provide business development, servicing, a major portfolio for the consortium to start with, and a significant dollar contribution for first loss of the contributed portfolio.

- The pension consortium would be eligible to be a partner for CalSTRS for California transactions.

- Staff would like to further develop this concept. If it merits further consideration, staff would make a formal presentation to the Board at a later date.

VII. IMPLEMENTATION OBJECTIVES

Credit enhancement is considered an opportunistic program that has the primary goal of earning fee income for CalSTRS based on zero underwriting loss standards. As such, the primary objectives to be set forth will assist CalSTRS in establishing the market niches to accomplish these ends. They are as follows:

- Establish a California Schools Credit Enhancement Program

- Establish a California Housing Program

- Research and recommend to the Board on the feasibility of a national consortium of pension funds to provide credit enhancement nationwide

- Achieve AAA ratings for CalSTRS from both Standard & Poor's and FITCH IBCA rating agencies.

VIII. STAFFING ISSUES

The program historically has required one full time equivalent with the work divided between several staff. However, the program has approximately 70 transactions to administer, and a backlog of pending transactions. Program development will take considerable effort.

The Credit Enhancement Program has been only passively marketed over the past 5 years, with most of the business being developed by word of mouth. The opportunity set for credit enhancement can be greatly expanded by having Investment Officers assume a more active role in the California public finance community.

Program development and marketing of the California School Credit Enhancement, the California Housing Programs, and the consortium of public pension funds providing credit enhancement nationwide will also be time consuming. Additional staff of 3 will be needed to accomplish the above objectives.

California State Teachers' Retirement System
Currency Hedging Program

Business Plan

I. Executive Summary

By policy, the California State Teachers' Retirement System's (CalSTRS, System) Currency Hedging Program shall be managed in accordance with an annual Business Plan. The objective for this Business Plan is to provide the California State Teachers' Retirement Board (Board) with foundational information concerning the management of the currency risk associated with a global investment strategy, along with background information related to the evolution of the Currency Hedging Program at CalSTRS. As a result, this plan document describes the development of the currency management strategy employed by CalSTRS, along with program structure and performance measurement issues. Finally, some of the key issues associated with currency risk management are discussed, as are the implementation objectives planned for the upcoming year, including any resource/staffing needs.

II. Program Function and Strategy

The decision by U.S. dollar-based investors to diversify into foreign assets is predicated upon the desire for improved risk-adjusted returns. The theory behind the foreign diversification argument is that, while domestic assets tend to move up and down together because they are similarly affected by domestic events, the various capital markets around the world often experience unrelated price movements. Investment performance in these markets may not be closely linked to the U.S. financial markets. Stated in another way, the performance of non-U.S. investments have a "low correlation" with the performance of domestic investments. The degree of independence of each market is directly linked to the independence of a nation's economy and government policies. Yet there continue to be common factors, such as widespread recessions or booms, which affect asset prices globally. However, academicians and market practitioners argue that diversification between markets around the world results in reduced portfolio risk and improved risk-adjusted portfolio returns.

Domestic assets are exposed to market risk, which is the probability that financial assets will rise or fall in value. Non-dollar assets have two sources of risk: 1) local market risk (the return of the equity market in Japan or United Kingdom) and, 2) currency risk (exchange rate risk) associated with the translation of foreign currency movements against the U.S. dollar. For example, a portfolio of Euro assets may increase in value by 10% to a local (European) investor, but an U.S. investor, such as CalSTRS, would receive the 10% return plus or minus any change in the Euro to U.S. dollar currency valuation. Since currency exchange rates are not stable, the likelihood that an exchange rate will remain constant over time is very small. Therefore, the return to the U.S. investor must be adjusted for the gains or losses associated with the movement of the underlying currency in relation to the U.S. dollar. For example, since 1970, the impact of currency on an EAFE equity portfolio's return has ranged from –17.8% to 36.5% in a given year.[1] Despite the recognized benefits of foreign diversification, the issue of how to address the foreign currency exposure within a non-dollar portfolio varies in practice. It is this exposure relative to currency fluctuations that gives rise to currency risk management strategies.

CalSTRS has adopted a global investment strategy, which includes a 25% strategic allocation to non-dollar investments, fifty percent (50%) of which is targeted to be managed on a passive basis. Considering the commitment to non-dollar assets and the impact that currency fluctuations have on the total return of the EAFE markets, CalSTRS has recognized the need to develop and implement strategies to address the management of currency risk through currency hedging.

Currency hedging is an agreement between a financial institution and CalSTRS, designed to reduce the risk associated with holding non-dollar investments. The primary objectives in managing currency risk are to reduce the downside by hedging currency positions against potentially adverse exchange rate movements and to benefit from favorable exchange rate movements.

The active non-dollar equity managers have been provided with guidelines describing their authority, with respect to currency hedging. These managers are permitted to hedge up to one hundred percent (100%) of the market value of each respective currency, up to fifty percent (50%) of the market value of their portfolio. However, the implementation of CalSTRS' Currency Hedging Program for the passive non-dollar equity portfolio is managed internally within the Fixed Income division using currency forwards in a risk adverse manner, concentrating on creditworthy counterparties. A forward foreign exchange transaction is a contractual obligation that provides the buyer or seller of a currency with a firm exchange rate for the conversion of a designated amount of that currency on a specified date (the value date) in the future.[2] Limited amounts of short currency positions are established in approved currencies when there is a high probability that the U.S. dollar may strengthen or when interest rate differentials are compelling.

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[1] "Currency Management", Bridgewater Associates, Inc., November 1998.

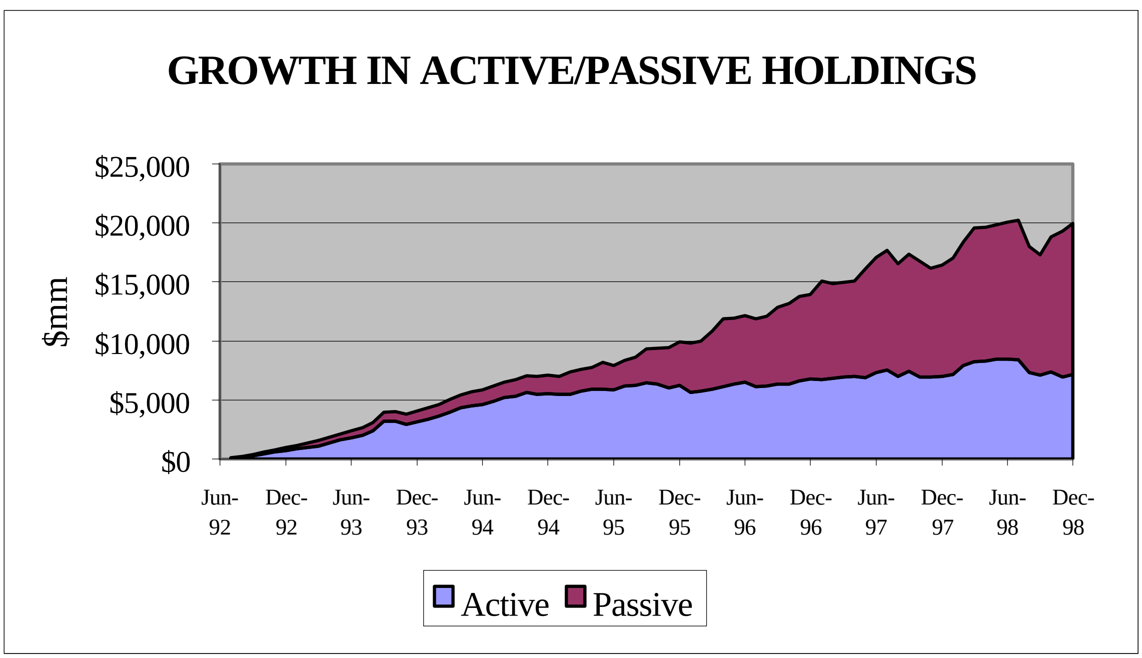
[2] The forward foreign exchange market is extremely large and liquid with daily turnover in North America exceeding $40 billion, according to the Federal Reserve. The forward market is the traditional method for hedging foreign currency exposures and covering transactions settling beyond the spot date. State Street Bank, 1995.

III. Historical Overview

CalSTRS began researching the role of non-dollar assets in the investment portfolio in the mid-1980's, but it wasn't until May 1992 that the System began funding its non-dollar equity portfolios. In June 1993, CalSTRS began funding global asset allocation managers. These managers were given a broad mandate by which they could buy both dollar denominated and non-dollar assets. Because of the increasing exposure to non-dollar assets, CalSTRS adopted a currency management strategy for the active non-dollar managers and global asset allocation managers, authorizing them to hedge their portfolios on a tactical basis using an unhedged performance benchmark.

In July 1995, the Investment Committee authorized staff to implement a similar currency risk reduction program on the passive non-dollar equity portfolio, and selected an unhedged performance benchmark as the appropriate measurement strategy for the internally managed currency hedging activity.

As of December 31, 1998, CalSTRS had almost $20 billion in non-dollar securities, which represented a commitment of 21% of the total investment portfolio to the non-dollar sector. The following graph identifies the rapid growth of non-dollar securities segmented by the active and passive components. This amount is expected to increase as the new asset allocation of 25% of the total investment portfolio continues to be implemented.



IV. Program Characteristics

As of December 31, 1998, CalSTRS had approximately $12.6 billion under management with an EAFE Index mandate. Current policy limits hedging to 100% of the market value of each authorized currency, up to 50% of the market value of the total indexed portfolio. The currencies approved for hedging are: Euro, Japan, Switzerland, and United Kingdom.

The Currency Hedging Program for the EAFE Indexed investments had the following hedging statistics as of December 31, 1998.

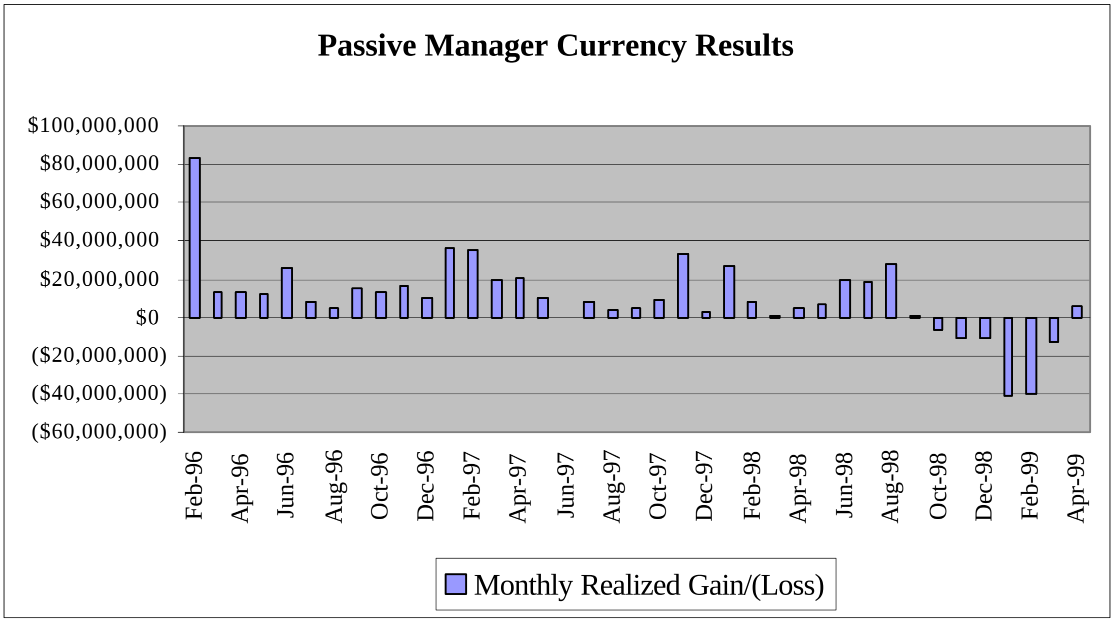
	Pacific Basin	European	Total
Passive Manager	20.4%	1.4%	7.0%

The passive portfolio had about $890 million of Japanese yen (20.4%) for the Pacific Basin region, hedged back to U.S. dollars, and $125 million of German marks and French francs (1.4%) for the European region, hedged back to U.S. dollars. Together, these hedges represented approximately 7% of the total indexed portfolio.

V. Performance Measurement

Currency risk can be managed by utilizing either a: 1) fully hedged, 2) unhedged or, 3) partially hedged performance benchmark/strategic currency exposure. A fully hedged approach reduces volatility by effectively eliminating the impact of foreign currencies in a non-dollar portfolio, but does so at a potentially significant financial cost. It also eliminates any opportunity to benefit from favorable currency movements. An unhedged approach to currency management involves minimal transaction costs but can result in an increase in the volatility of returns as a result of retaining the currency exposure. A partial hedge combines the benefits and costs of the fully hedged and unhedged approaches and results in a reduction of both potential upside and downside movements.

CalSTRS’ Currency Hedging Program is measured against an unhedged performance benchmark. The following chart identifies the currency hedging gains and losses since inception of the internally managed program through April 1999.



Since inception, the total realized gains for the Currency Hedging Program have amounted to $393 million.

VI. Key Issues

The decision regarding how to handle the currency exposure associated with the non-dollar assets within the investment portfolio will have a significant impact on the total return. With a 25% strategic allocation to non-dollar investments, currency represents the third largest exposure in CalSTRS' investment portfolio. Therefore, the major issue for controlling the risk associated with CalSTRS' currency exposure is the ongoing development and implementation of a strategy designed to manage that exposure, along with the selection of an appropriate performance benchmark/strategic currency exposure.

Inherent in developing a currency strategy is the recognition that both implicit and explicit currency hedging decisions are involved. The active managers make implicit currency decisions through security and country selection. These decisions are difficult to identify and measure, but can be substantial. Explicit currency decisions involve: 1) retaining all or some portion of the currency risk associated with holding non-dollar assets or, 2) hedging the currency risk into U.S. dollars (assuming a U.S. based investor). As a result, CalSTRS has developed the Currency Hedging Program Policy, which represents how the System shall manage its currency risk for the passive non-dollar equity portfolio. The Currency Hedging Program Policy was adopted in 1995 and revised in 1997 and 1999. Continuous monitoring of changes in the non-dollar equity portfolio and the marketplace are required in order to control risk.

VII. Implementation Objectives

1. Evaluate the Currency Hedging Program in terms of the original objectives presented to the Investment Committee in July 1995. Include in the report a recommendation on the continued applicability of hedging currency, concentrating on the risk control aspects.

2. Utilize additional currency risk management strategies, such as the use of currency options, to increase the efficiency of the Currency Hedging Program.

VIII. Staffing

The fixed income staff responsible for the implementation of the Currency Hedging Program performs a variety of roles which require extensive knowledge of currency risk management methods, a wide variety of professional and technical skills, an in-depth awareness of factors that influence the currency markets, and a thorough understanding of trading techniques associated with currency hedging instruments. Currently, the Director of Fixed Income and one other portfolio manager spend a portion of their time implementing CalSTRS' Currency Hedging Program, with additional staff assisting in the analytical and reporting functions. No other staffing issues are anticipated at this time.

California State Teachers' Retirement System
External Equities
Business Plan

I. Role and Purpose

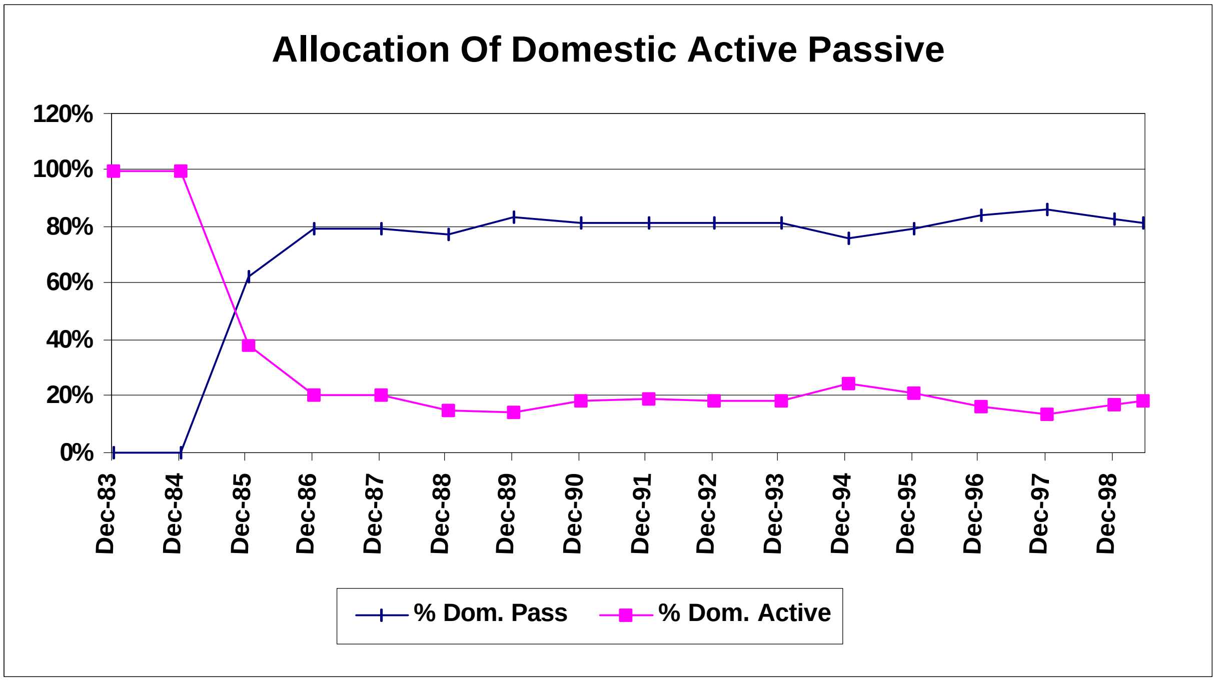
The primary function of the equity portfolio is to provide a high-expected rate of return, relative to other assets at a reasonable level of liquidity and to diversify the exposure into multiple markets. California State Teachers' Retirement System's (CalSTRS) strategy is to invest the domestic segment across the Russell 3000 Index of securities and across the Morgan Stanley Capital International (MSCI) All Country Ex-US (AC ex US) index for the international segment. The total public equity portfolio is invested with emphasis on both passive and active management. As of May 31, 1999, the market value of domestic equity was $43,925 million; this amount represented 45.6% of the total fund. Passive portfolios represented 81%, while active portfolios accounted for 19% of the domestic equity segment. For the same period the market value of the international equity was $21,856 million which represented 22.7% of the total fund. The passive/active split was 66% passive and 34% active.

II. Historical Overview

Equity investments have only been a part of CalSTRS' investment strategy since 1973, when the first equity security was purchased in the portfolio. With the passage of Proposition 21 in 1983, the statutory limitation on the percentage of equities allowed in the portfolio was eliminated. During the 1985 asset allocation review, the recommendation was made to increase the percentage of domestic equity securities to 50% of the investment portfolio. This was CalSTRS' highest allocation to domestic equity securities.

Asset allocation reviews have been a regular feature of the Board's oversight responsibility ever since the initial review in 1985. Included in the 1985 asset allocation review was a recommendation by the general consultant that an allocation of 15% be made to international equities. Over time this allocation was increased to 25%. However, this allocation was not implemented until 1992, with the purchase of the first international equity security.

The desire to increase diversification, reduce risks and costs has led to an increased reliance on passive management. The graph below displays the percentage of CalSTRS' domestic equity allocation managed in the active and passive styles:



From 1986 to 1993, the passive/active split was consistent at 80/20. However, by 1997, the active component had declined to approximately 10%, with minimal diversification. As a result of this style drift, the Board modified the target allocation between the active and passive components to 80% passive management and 20% active management in the domestic equity segment. In 1998 the Board adopted a 50/50 split for the international portfolio. Staff is currently working towards that goal.

III. Current Status

The estimated market value of the domestic equity portfolios was $44 billion, which represented 46% of the total investment portfolio on May 31, 1999. CalSTRS has 18 externally managed and one internally managed domestic equity portfolio(s). Both the passive and active managers are listed along with the market value of the assets below:

NAME OF MANAGERS	***PORTFOLIO MARKET VALUE***
ENHANCED	
Barclays Global Investors	$ 219 million
DSI International Management	$ 661 million
Mellon Capital Management	$ 616 million
State Street Global Advisors	$ 648 million
LARGE CAP CORE	
Chicago Equity Partners	$ 451 million
First Quadrant	$ 437 million

LARGE CAP VALUE	
Brinson Partners	$ 558 million
Delaware Investment Advisors	$ 450 million
Sasco Capital Inc.	$ 600 million

LARGE CAP GROWTH	
Brown Capital Management	$ 434 million
NCM Capital Management	$ 546 million
Putnam Capital Management	$ 429 million

SMALL CAP VALUE	
Ariel Capital Management	$ 161 million
Delphi Management	$ 91 million

SMALL CAP GROWTH	
Denver Investment Advisors	$ 784 million
TCW Asset Management	$ 157 million
Total Active Management	**$ 7,242 million**

PASSIVE	
CalSTRS Internal S/P 500 Index	$ 1,268 million
External BGI S/P 500 Index	$29,406 million
External BGI Extended Mkt. Index	$ 6,009 million
Total Passive Management	**$36,683 million**

TOTAL DOMESTIC EQUITY	**$43,925 MILLION**

The May 31, 1999 estimated market value of the international equity portfolios is approximately $22 billion, which represents 23% of the total investment portfolio. There are 14 international equity managers, with 10 active and four passive external managers. All of the international equity investment management is performed by external investment managers. The managers and portfolio values are listed below:

NAME OF MANAGER	***PORTFOLIO MARKET VALUE***
MSCI EAFE	
Bank of Ireland	$ 853 million
Capital Guardian	$ 1,131 million
Invesco	$ 363 million
Lazard Freres	$ 805 million
Morgan Stanley	$ 774 million
Scudder	$ 760 million

EUROPE	
Oechsle International	$ 1,044 million

PACIFIC BASIN	
Schroder Capital	$ 547 million

GLOBAL	
Baring International	$ 377 million
Fiduciary Trust	$ 628 million
Total Active International	**$ 7,282 million**

PASSIVE	
BGI Europe	$ 8,711 million
BGI Pacific Basin	$ 4,221 million
State Street Global	$ 1,579 million
Total Passive International	**$14,511 million**

Currency Allocation (Hedged)	$ 63 million

TOTAL INTERNATIONAL EQUITY	**$21,856 MILLION**

IV. Performance Measurement

The performance benchmark for the aggregate domestic equity portfolio is the Russell 3000 Index. However, each of the managers has an individualized performance benchmark. From 1986 to 1995, the performance benchmark for the domestic equity portfolio was the Wilshire 5000 Index. The following table compares the aggregate active and passive portfolios to the Russell 2500 Index, Russell 3000 and the Wilshire 5000 over the past three, five, seven and ten year periods, ending May 31, 1999:

Active an Passive – Domestic Equity
For the periods ending May 31, 1999

	3 Years	5 Years	7 Years	10 Years
Active	14.37	17.73	15.66	14.74
Passive	24.03	23.62	19.22	16.85
Russell 2500	11.25	15.96	15.12	13.35
Wilshire 5000	23.40	23.76	19.27	16.96
Russell 3000	24.22	24.11	19.52	17.28

The performance benchmark for the total international equity portfolio is the MSCI All Country ex US. The portfolio has two regional managers, one compared to the MSCI European Index and one compared to the MSCI Pacific Basin Index. The portfolio has one emerging market manager that is compared to a custom Emerging Market Index. All of the other managers are measured against the MSCI EAFE Index. The following table compares the aggregate active and passive portfolios over the past one, two, three and five year periods. Over all the periods observed in the table below, the active managers have added value compared to the EAFE Index:

Active an Passive – International Equity For the periods ending May 31, 1999				
	1 Year	2 Years	3 Years	5 Years
Active	6.64	10.51	11.85	10.45
Passive	6.32	3.89	4.36	6.07
MSCI EAFE	4.36	7.68	7.63	7.69
MSCI AC ex US	4.32	5.84	6.79	7.14

VI. Implementation Objectives

1. Prepare, release and evaluate Requests for Proposals for indexed domestic, international and emerging markets managers. The current contracts expire on January 31, 2000.

2. Report on the implementation results for the actively managed segment of the domestic equity portfolio comparing actual results to the projected figures contained in the October 1997 Investment Committee presentation.

3. Explore, evaluate and present a report on the viability of utilizing long/short domestic equity managers as a portion of the actively managed segment of the domestic equity portfolio.

4. Explore, evaluate and present a report on the appropriate method of selecting and/or approving allowable emerging market countries to be included in the active or passive emerging market portfolios.

VII. Staffing Issues

Staff has been added to accommodate the monitoring, analysis and program requirements of the additional managers and particularly, the increase in active equity managers. Additional staffing would be required if additional programs were added, and if activities in current programs are increased. No other staffing issues are anticipated.

California State Teachers' Retirement System
Long-Term Fixed Income Portfolio

Business Plan

I. Executive Summary

By policy, the California State Teachers' Retirement System's (CalSTRS, System) domestic Long-Term Fixed Income Portfolios shall be managed in accordance with an annual Business Plan. The objective for this Business Plan is to provide the California State Teachers' Retirement Board (Board) with foundational information regarding the domestic long-term fixed income asset class, along with background information related to the management of the portfolio at CalSTRS. As a result, this plan document reviews the rationale and use of domestic long-term fixed income assets within the CalSTRS investment portfolio, in addition to potential opportunities and strategies within the fixed income asset class in general. Specifically, this plan document reviews the role that domestic long-term fixed income assets play within a diversified investment portfolio, along with portfolio characteristics and performance measurement issues. Finally, some of the key issues associated with the management of domestic long-term fixed income assets are discussed, as are the implementation objectives, including any resource/staffing needs, planned for the upcoming year.

II. Portfolio Function and Strategy

A bond is a debt instrument or a loan. Investors who buy bonds are lending a specific sum of money (the principal) to the bond issuer (a corporation, a government, or some other borrowing institution) for a specific period of time (the term). Typically, the bond issuer promises to make regular payments of interest to the investor at a rate that is set when the bond is issued. That is why bonds are often referred to as fixed income investments.

The term of a bond ends on the bond's maturity date, at which time the issuer repays to the investor the face amount listed on the bond. Generally, a bond is a long-term instrument maturing anywhere from five to thirty years after issue. When a bond is held to maturity, its face amount is repaid in full. Before maturity, however, the value of a bond may often fluctuate. These continuous changes in bond prices are influenced by many factors, including interest rate movements, supply and demand, changes in the financial health of the bond issuer, returns offered by other investments, and the maturity date of the bond.[1]

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[1] Plain Talk: Bond Fund Investing, The Vanguard Group.

Long-term fixed income securities can be considered unique in that they represent an investment asset class that bridges the return and risk characteristics between cash equivalents and stocks. At 26%, CalSTRS' current asset allocation policy weighting to domestic long-term fixed income securities (bonds) constitutes the second largest proportion of the System's total investment assets[2]. Within the asset allocation process at CalSTRS, domestic long-term fixed income investments provide diversification and liquidity/cash flow to the System.

With respect to diversification, bonds have investment characteristics that differ from other asset classes, most specifically, publicly traded equity. Although bonds do fluctuate in value just as equities, bonds do not always move in the same direction, or to the same degree, as equities. Therefore, exposure to fixed income assets should lower the volatility of an equity-only portfolio. In fact, including bonds in a portfolio limited to cash and equities will enhance its risk-adjusted returns. As a result, bonds serve as a risk reducer and provider of stable returns for a diversified investment portfolio.

In terms of liquidity/cash flow, bonds were originally designed as instruments to provide investors with consistent streams of income over varying lengths of time. Over time, bonds have evolved to contain other structures, but they still remain the instrument of choice for providing income to investors while reducing the risk of sacrificing invested principal. In an institutional fund such as CalSTRS, significant amounts of income originating from the bond portion of the investment portfolio can be redirected to other asset classes (e.g. equities, alternative investments, or real estate) and designated to pay plan benefits without selling principal out of the other asset classes. In this respect, bonds play an important liquidity role within a portfolio that, otherwise, has a long-term investment horizon.

CalSTRS follows an enhanced indexing investment strategy within the domestic fixed income portfolios that includes elements of both active and passive investment management. In enhanced indexing, the objective is to consistently exceed the total return performance of the index, while matching the major risk characteristics. CalSTRS currently uses the Salomon Brothers Large Pension Fund Bond Index (LPF Index), which represents a broad market index of treasury, corporate and mortgage backed securities, as a performance benchmark for its domestic long-term fixed income assets. A broad market index fund can add value by allocating assets among the different market sectors and by taking advantage of specific investment opportunities in each of those market sectors.

[2] Domestic equities, with a policy weighting of 38% of total assets, is the largest asset class.

III. Historical Overview

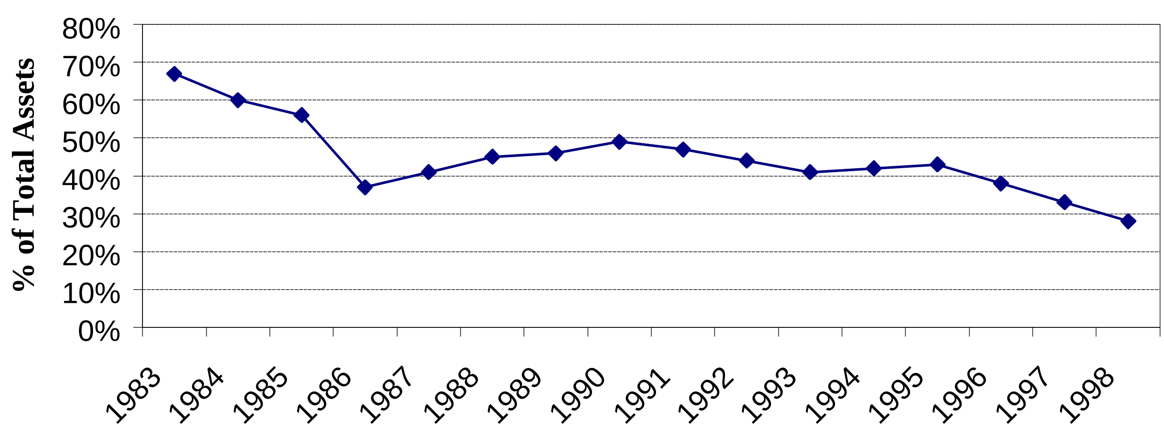
Prior to 1966, CalSTRS invested only in corporate, municipal and U.S. Government fixed income securities. In 1966, Proposition 6, which removed the mandate to purchase only fixed income securities, was passed. The first equity security was purchased in 1973. For the next six years, fixed income securities comprised approximately 95% of the total investment portfolio. During 1979 and 1980, there was a substantial change in the asset allocation, with the market value of the domestic fixed income portfolio decreasing to approximately 75% of the total investment portfolio.

In 1983, Proposition 21 was implemented, eliminating the statutory limitations on the non-fixed income components of the investment portfolio. During 1985, the general consultant completed an asset allocation review that recommended a decrease in domestic fixed income securities to between 40% and 50% of the investment portfolio.

Subsequent asset allocation reviews have been performed by the Board approximately every two years, each with a unique combination of domestic and international equity and fixed income percentages. The desire for increased diversification has gradually reduced the strategic allocation of domestic long-term fixed income securities to the current target level of 26%.

The following graph shows domestic long-term fixed income as a percentage of the total investment portfolio since 1983.

California State Teachers' Retirement System
Domestic Long-Term Fixed Income as a % of Total Assets



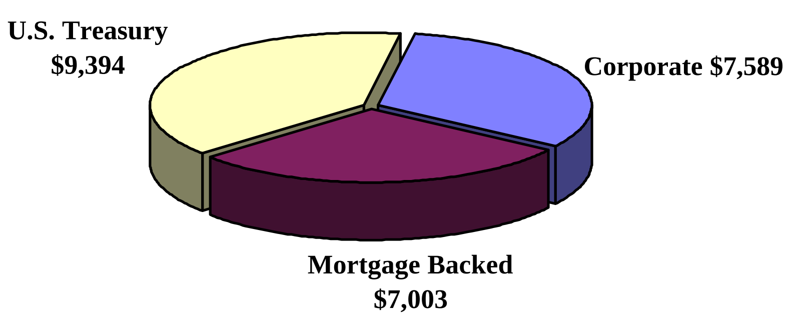
As the chart illustrates, the percentage of domestic fixed income securities has decreased as a percentage of the total investment portfolio over the past fifteen years. This pattern can be attributed to a decade of decreasing interest rates in the United States that has lead to lower expected returns on the domestic fixed income asset class in general. In addition, global diversification implies smaller allocations to each specific asset category to reduce volatility and increase the probability of achieving the targeted absolute overall return objective for the System.

Until 1986, the fixed income portfolios were managed on an active basis by external investment managers. In implementing the 1985 Investment Management Plan, an initial allocation to passive management was made in the Fall of 1986. Within one year, all of the active manager contracts had been terminated, with the proceeds transferred to the passive portfolio manager. By the fourth quarter of 1988, all of the fixed income assets had been transferred to internal management following an enhanced index management strategy.

IV. Portfolio Characteristics

The market value of the domestic long-term fixed income portfolio was $24 billion on December 31, 1998, representing 25.7% of the total investment portfolio. The fixed income portfolio is representative of a broad market fund and is comprised of U.S. Treasury/Agency, mortgaged-backed, and investment grade corporate securities. The following pie chart shows these three segments of the domestic fixed income portfolio as of December 31, 1998. The assets shown on the pie chart do not include the whole loan portfolio and the remnants of the tactical asset allocation portfolio, which amount to $576 million and $1.6 billion respectively.

California State Teachers' Retirement System
Fixed Income Allocation
As of 12/31/98



As described earlier, CalSTRS follows an enhanced indexing strategy within the domestic fixed income portfolio. This strategy involves an objective of outperforming the performance benchmark while maintaining comparable major risk characteristics. The major risks associated with holding fixed income assets can be linked to both interest rate risk and credit risk. Interest rate risk is the price volatility produced by changes in the overall level of interest rates in the marketplace, as measured by effective duration. Credit risk is the uncertainty surrounding the issuer's ability to repay its obligations. One of the primary methods of identifying credit risk in a fixed income portfolio is through the use of the ratings established by the credit rating agencies (Moody's and Standard & Poors). The following table represents a snapshot of CalSTRS' domestic fixed income portfolio, as compared to the LPF Index (CalSTRS' domestic long-term fixed income performance benchmark) on December 31, 1998, in terms of their major risk characteristics.

	CalSTRS Portfolio		LPF Index	
	% of Portfolio	Effective Duration	% of Index	Effective Duration
US Govt/Agency	**38.90%**	**9.89**	**40%**	**9.68**
S&P Rated				
AAA	0.22%	8.28	1.34%	8.88
AA+	0.23%	8.81	0.50%	7.34
AA	1.98%	8.70	1.52%	9.33
AA-	4.27%	8.69	2.95%	8.23
A+	5.34%	9.32	3.87%	9.08
A	7.31%	8.10	5.69%	8.48
A-	4.20%	9.25	3.72%	8.37
BBB+	3.71%	8.71	3.53%	8.31
BBB	2.62%	9.29	3.73%	8.43
BBB- & below	2.50%	8.76	3.15%	8.05
S&P Rated	**32.37%**	**8.72**	**30%**	**8.49**
MBS	**28.73%**	**2.30**	**30%**	**2.98**
TOTAL	**100%**	**7.24**	**100%**	**7.05**

Nearly 70% of the domestic long-term fixed income holdings are either U.S. Treasury, U.S. Agency or U.S. government guaranteed securities, with a minimal percentage held in the lowest credit categories.

V. Performance Measurement

CalSTRS' performance benchmark for the domestic long-term fixed income assets is the Salomon Brothers' Large Pension Fund Index (LPF Index). The LPF Index was originally introduced in 1986 by Salomon Brothers, and was designed primarily for pension funds seeking to establish domestic long-term core fixed income portfolios that more closely matched the longer duration[3] of their nominal dollar liabilities. In addition to the longer duration, the LPF Index also emphasizes higher yielding securities through a seven-year minimum maturity and a fixed re-weighting of the sectors to overweight corporate and mortgage-backed securities relative to U.S. Treasuries. By definition, a long-term core holding of investment

[3] Duration is a measure of price sensitivity to interest rates. Duration is the percentage move in price that is anticipated, given a 100 basis point (1 percent) move in interest rates.

grade securities does not require the liquidity associated with a full capitalization-weighted market percentage of U.S. Treasuries. Furthermore, the quality enhancement that would come from a market-weighted representation in Treasuries would create a significant return drag over long time periods.

The following table illustrates the criteria used in designing the structure of the LPF:

LPF Design Criteria:

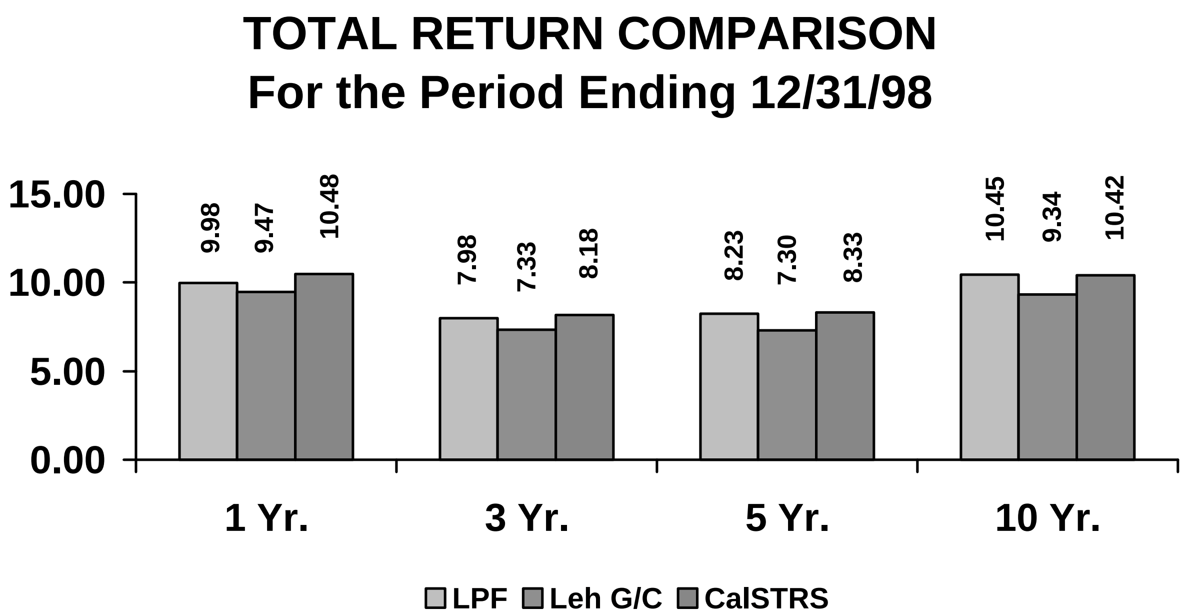
Stated Coupon	Fixed Rate
Minimum Maturity	Non-Mortgages: Seven Years
	Mortgages: One Year
Fixed Weighting	Treasury/Govt. Spons.: 40%
	Corporate: 30%
	Mortgage: 30%
Minimum Amt. O/S	Corporates/Govt. Spons.: $100 mm
Composition	Treasury (exc. Infl. Indexed)
	Agency
	Supranationals
	Corporates
	Yankees and Globals
	Mortgage pass-throughs
Minimum Quality	BBB-/Baa3 by either S&P or Moody's

In 1987, CalSTRS incorporated its preference for a benchmark consistent with its long duration liabilities. The Investment Committee selected the LPF Index as the performance benchmark for the domestic long-term core fixed income assets. As described earlier, the LPF Index utilizes fixed sector weightings of 40% U.S. Treasuries/Government Sponsored, 30% Corporates, and 30% Mortgages. This departure from the market capitalization weights of 47% U.S. Treasuries, 23% Corporates, and 30% Mortgages[4], combined with the minimum maturity of seven years for all Treasury/Government Sponsored and corporate securities, provides a less liquid, longer duration benchmark with a higher yield.

For comparison purposes, included in the following chart is a snapshot of the return history for the Salomon Brothers LPF Index (LPF) and the Lehman Brothers Govt./Corp. Index (Leh.G/C). The Lehman Govt./Corp. Index is considered to be an industry standard among the thousands of investment grade fixed income benchmarks. The time periods selected are the past one, three, five and ten-year returns for the period ending December 31, 1998. Also included for

[4] Salomon Brothers BIG Index December 1998

comparison purposes, is the return for the CalSTRS Fixed Income portfolio over the same time periods.



Throughout the ten-year period studied, the LPF Index has provided a higher total return than the Lehman Govt./Corp. Index, ranging from fifty basis points over the past year to over one hundred basis points for the past ten years. To put this into perspective, given that CalSTRS' fixed income portfolio has averaged $16 billion over the past ten years, the net benefit of using the LPF Index as the performance benchmark has added more than $160 million annually.

Taking this illustration one step further, when comparing CalSTRS' returns with those of the LPF Index over the past one, three and five year periods, CalSTRS' outperformance has contributed approximately $20 million annually. This result can be attributed to the enhanced indexed strategy that CalSTRS follows when managing the fixed income portfolio, in which a tactical approach is taken in selecting securities for the portfolio, as compared to owning the target benchmark. This is done in an effort to enhance returns by reducing risk and/or minimizing transaction costs.

Performance, however, cannot be measured only by looking at relative returns. Return must be related to the amount of risk taken. The Sharpe Ratio relates the excess return (portfolio return less the risk free rate) over the period to the standard deviation of returns over that same period. The following table takes the returns illustrated in the previous chart along with the standard deviation, and translates them into the resulting Sharpe Ratio.

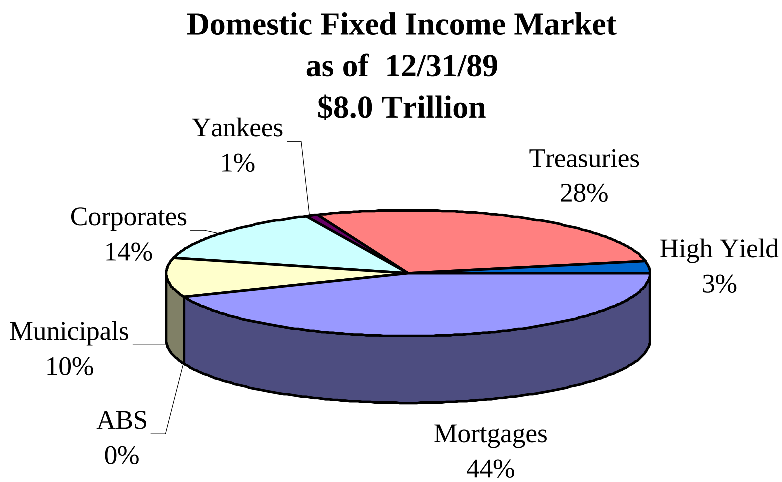
For the Period Ending 12/3198

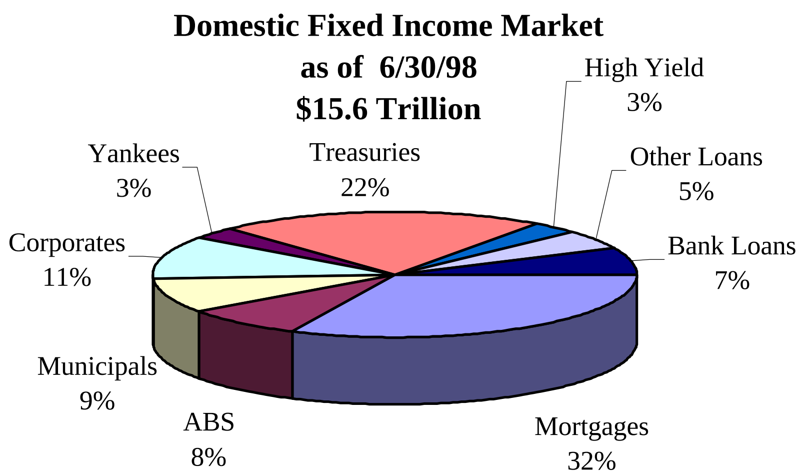
	LPF Index	Lehman G/C	CalSTRS
1Yr. Total Return	9.98%	9.47%	10.48%
Standard Deviation	1.10	0.98	1.16
Sharpe Ratio	**4.21**	**4.20**	**4.42**
3Yr. Total Return	7.98%	7.33%	8.18%
Standard Deviation	1.53	1.18	1.62
Sharpe Ratio	**1.69**	**1.64**	**1.72**
5Yr. Total Return	8.23%	7.30%	8.33%
Standard Deviation	1.72	1.30	1.77
Sharpe Ratio	**1.70**	**1.53**	**1.71**
10Yr. Total Return	10.45%	9.34%	10.42%
Standard Deviation	1.61	1.27	1.69
Sharpe Ratio	**2.93**	**2.84**	**2.78**

The analysis shows that, over the past ten years, the LPF Index has provided a consistently higher Sharpe Ratio and, therefore, a higher risk-adjusted total return, as compared to the Lehman Brothers Govt./Corp. Index. As a result, the selection of the LPF Index as a performance benchmark for CalSTRS has translated into higher risk-adjusted returns for the System. When the analysis is expanded to include CalSTRS' portfolio over the one, three and five-year time period, the results indicate that CalSTRS has outperformed the LPF Index on a risk-adjusted basis, as well.

VI. Key Issues

The major issue facing CalSTRS' domestic long-term fixed income portfolio is the integration of the evolution of the fixed income markets into the portfolio. Given the diversification and liquidity roles that they play, institutional investors have viewed fixed-income assets as a critical component of their portfolios for several decades. As investors' interests have evolved, so have the fixed income markets (see the following charts).





Sources: PCA, Lehman, Frank Russell, Credit Suisse First Boston

In the mid-and-late-1980's, publicly traded fixed income opportunities had four major groupings: government bonds (or U.S. Treasuries), mortgage-backed securities, corporate bonds, and municipal bonds (top pie chart). Over the last ten years, the bond market has continued to evolve. Today, many of the minor bond segments of ten-to-fifteen years ago, such as ABS and Bank Loans, are now playing a much larger role (bottom pie chart). All of the proportions of the four major segments have declined, giving ground to the newer, more innovative segments. For example, asset-back instruments ("ABS") have grown from virtually no representation 10 years ago to over 8% of the total bond market today. Such is the case with other bond categories, such as bank loans and "other" loans.[5]

Such extension of the bond market makes establishing bond policy, portfolio management, and monitoring all the more critical. Given the fundamental roles of fixed-income instruments within a multi-asset class portfolio, the consideration of exposure to these newer instruments becomes an important factor, as CalSTRS continues to evaluate its overall approach to fixed-income investment.

VII. Implementation Objectives

To explore, evaluate, and present the inclusion of high yield (junk) bonds in the fixed income portfolio. Elements presented should include:

1. The role of high yield bonds,
2. The style of management: strategic or opportunistic,
3. The management decision: internal or external, and
4. The selection of an appropriate performance benchmark.

VIII. Staffing

The fixed income staff responsible for the management of the domestic long-term fixed income portfolios performs a variety of roles which require extensive knowledge of portfolio management methods, a wide range of professional and technical skills, an in-depth awareness of factors that influence the valuation of fixed income securities, and a thorough understanding of trading techniques. Currently there are three portfolio managers responsible for the management of the U.S. Treasury/Agency, Mortgage and Corporate Bond portfolios. Each of these portfolio managers has other staff available to assist in the trading, analytical and reporting functions. Should the Investment Committee approve the inclusion of High Yield Bonds, additional staff will be needed.

[5] Pension Consulting Alliance, Fixed Income Performance Benchmark Analysis, March 3, 1999.

California State Teachers' Retirement System
Short-Term Fixed Income Portfolio

Business Plan

I. Executive Summary

By policy, the California State Teachers Retirement System's (CalSTRS, System) Short-Term Fixed Income Portfolio shall be managed in accordance with an annual Business Plan. The objective for this Business Plan is to provide the California State Teachers' Retirement Board (Board) with foundational information, with respect to the domestic short-term fixed income asset class and background information related to the management of CalSTRS' Short-Term Fixed Income Portfolio. As a result, this plan document reviews the rationale and use of domestic short-term fixed income assets within the CalSTRS Short-Term Fixed Income Portfolio, in addition to potential opportunities and strategies within the domestic short-term fixed income asset class in general. Specifically, this plan document describes the role that domestic short-term fixed income plays within the diversified investment portfolio of a public pension fund, portfolio characteristics and performance measurement issues. Finally, some of the key issues associated with the management of domestic short-term fixed income assets are discussed, as are any staffing/resource needs.

II. Portfolio Function and Strategy

A bond is a debt instrument or a loan. Investors who buy bonds are lending a specific sum of money (the principal) to the bond issuer (a corporation, a government, or some other borrowing institution) for a specific period of time (the term). Typically, the bond issuer promises to make regular payments of interest to the investor at a rate that is set when the bond is issued. That is why bonds are often referred to as fixed income investments.

The term of a bond ends on the bond's maturity date, at which time the issuer repays to the investor the face amount listed on the bond. When a bond is held to maturity, its face amount is repaid in full. Before maturity, however, the value of a bond may often fluctuate. These continuous changes in bond prices are influenced by many factors, including interest rate movements, supply and demand, changes in the financial health of the bond issuer, returns offered by other investments, and the maturity date of the bond.[1] Generally, the bonds associated with short-term fixed income portfolios mature anywhere from one (1) to seven (7) years after issue. In addition, the investment of the excess cash managed in short-term fixed income portfolios generally includes the use of money-market instruments, the maturity of which is measured in days or months, rather than years.

[1] Plain Talk: Bond Fund Investing, The Vanguard Group, www.vanguard.com.

CalSTRS' domestic short-term fixed income portfolio, also known as the Liquidity Portfolio, provides cash flow for the funding of benefit payments, investment manager activity, and asset allocation purposes. At a policy weighting of 1% of total assets, the investment objectives for the Short-Term Fixed Income Portfolio are threefold: 1) to seek the preservation of capital (safety), 2) to provide liquidity and, 3) to maximize current income.

The "preservation of capital" objective is accomplished by investing in a diversified portfolio of high quality, short-term, money-market securities including, but not limited to, commercial paper, bankers' acceptances, repurchase agreements, corporate bonds, and U.S. Treasuries/Agencies. Spreading the funds across different investment types, multiple issuers, and various maturities, minimizes the impact any one industry or investment type can have on the portfolio.

Liquidity can be defined as the ability to readily convert a reasonable portion of the portfolio to cash without causing a material change in the value of the portfolio. CalSTRS' Short-Term Fixed Income Portfolio is managed to ensure that normal cash needs, as well as scheduled extraordinary cash needs, can be met. Further, adequate liquidity is maintained to ensure that unforeseen cash needs can be met, as well.

The Short-Term Fixed Income Portfolio is managed in such a way as to realize the maximum return consistent with safe and prudent investment management. This objective is accomplished by following carefully developed policies and procedures designed to ensure prudence and care in the management of the portfolio, while allowing sufficient flexibility in the management process to capture investment opportunities. Compliance with these policies and procedures is monitored at various levels on a continuous basis. [2]

In managing the Short-Term Fixed Income Portfolio, CalSTRS employs a number of professional money management techniques and strategies. These techniques include varying the composition of the fund's investments and the average maturity of the portfolio, based upon an assessment of the relative values of the various money market instruments. Future interest rate patterns based upon changing economic conditions and shifts in fiscal and monetary policy are also taken into consideration.

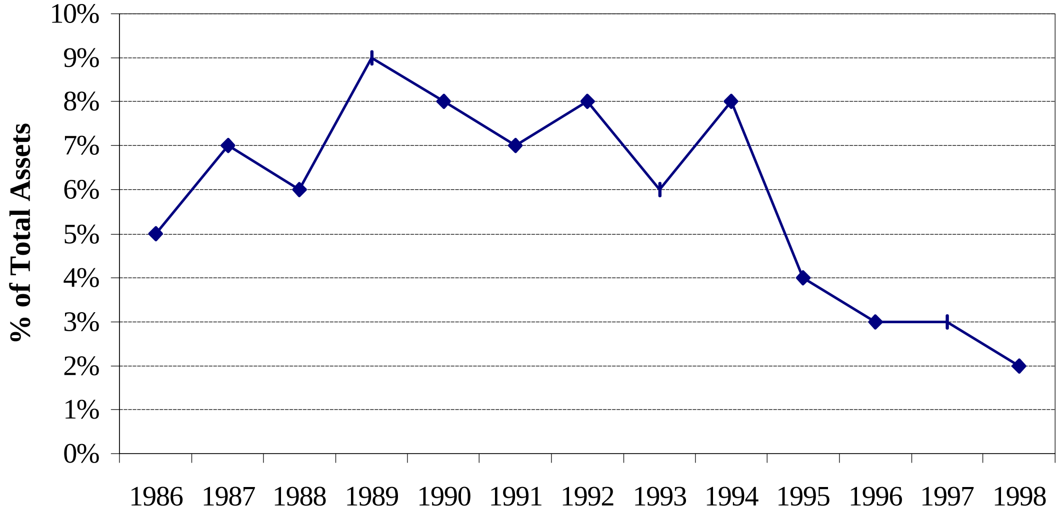
[2] California Association of School Business Officials (CASBO) Journal, Summer 1998, pp39-41.

III. Historical Overview

Until 1986, external investment managers had managed each of the domestic fixed income portfolios for CalSTRS, including the cash reserves, which were managed by the State Treasurer's Office in their SMIF account. By the fourth quarter of 1988, all of the fixed income assets had been transferred to internal management.

The following graph shows short-term fixed income as a percentage of the total investment portfolio since 1986.

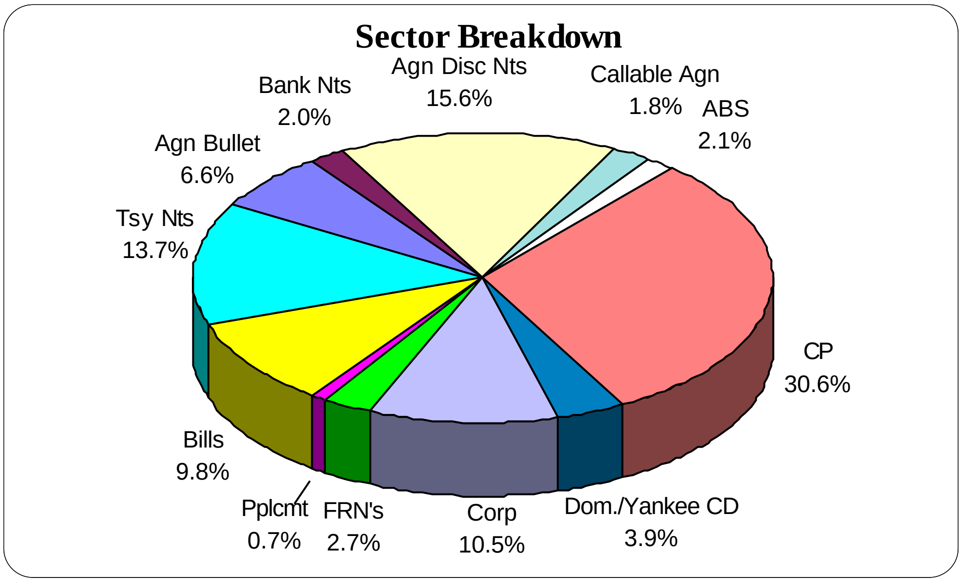
California State Teachers' Retirement System
Short-Term Fixed Income as a % of Total Assets



As the chart illustrates, the percentage of short-term fixed income securities has decreased as a percentage of the total investment portfolio over the past twelve years. This pattern can be attributed to a decade of decreasing interest rates in the United States that has lead to lower expected returns on the domestic fixed income asset class in general.

IV. Portfolio Characteristics

The market value of the Short-Term Fixed Income Portfolio was $1.3 billion on March 31, 1999, representing 1.3% of the total investment portfolio. The Short-Term Fixed Income Portfolio is a diversified portfolio comprised of domestic short-term money market securities, including commercial paper, bankers' acceptances, repurchase agreements, asset-backed securities (ABS), and U.S. Treasuries/Agencies. The following pie chart shows the sector breakdown of the Short-Term Fixed Income Portfolio, as of March 31, 1999.



As described earlier, the System's strategies for managing the Short-Term Fixed Income Portfolio include varying the composition of the portfolio's investments and the average maturity of the portfolio, based upon an assessment of the relative values of the various money market instruments, and future interest rate patterns, based upon changing economic conditions and shifts in fiscal and monetary policy. Given the primary objectives of safety, liquidity, and yield, specific portfolio guidelines with respect to diversification, credit limits and maturity are followed and monitored on an ongoing basis. The following tables represent a snapshot of CalSTRS' Short-Term Fixed Income Portfolio as of March 31, 1999, in terms of portfolio quality and maturity.

Portfolio Quality	% of Portfolio
Gov/Agy	47.5%
AAA (A1/P1)	38.6%
AA	0.0%
AA-	1.2%
A+	2.8%
A	4.9%
A-	3.2%
BBB+	0.0%
BBB (A2/P2)	1.2%
NR	0.7%
	100.0%

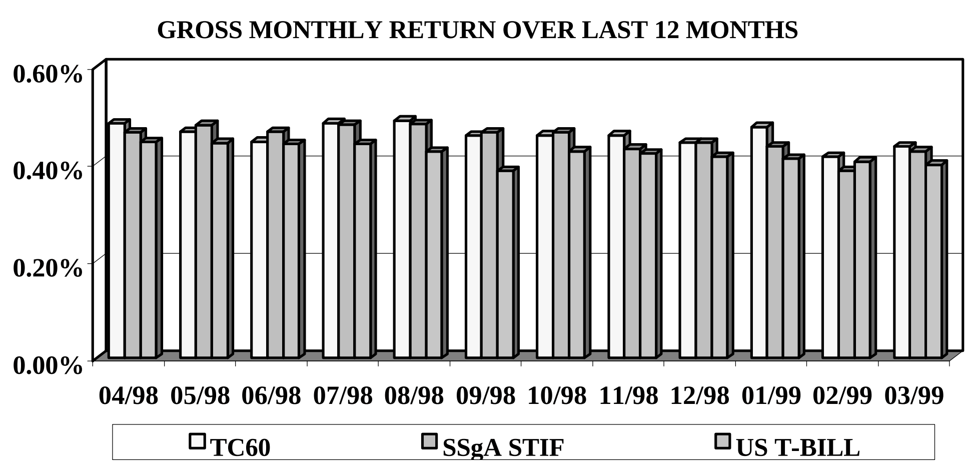
Maturity Spectrum	% of Portfolio
1999	77.0%
2000	15.0%
2001	4.0%
2002	4.0%
	100.0%

More than 85% of the short-term investments consist of U.S. Treasury, U.S. Agency, or securities of the highest credit quality. The average number of days to maturity of the portfolio as of March 31, 1999, was 172 days.

V. Performance Measurement

The primary purpose of performance measurement is to monitor how well a portfolio is doing compared to the objectives that were established for it. As described earlier, the investment objectives of CalSTRS' Short-Term Fixed Income Portfolio are to seek the preservation of capital and liquidity, and to generate the highest possible current income consistent with a prudent level of risk available from investing in a diversified portfolio of domestic short-term fixed income securities. The performance of portfolios consisting of excess reserves, such as CalSTRS' Short-Term Fixed Income Portfolio, can be difficult to evaluate, given the different mandates, risk constraints, and liquidity needs typical of these types of portfolios. Therefore, it is difficult to select an appropriate benchmark against which to measure the performance of a portfolio consisting of excess reserves used primarily for liquidity purposes.

However, in order to give some perspective of the return generated by CalSTRS' Short-Term Fixed Income Portfolio, a peer group comparison can be made with other large money-market funds with a similar investment mandate and guidelines. The following is a chart comparing CalSTRS' Short-Term Fixed Income Portfolio performance with that of the State Street Global Advisors Short-Term Investment Fund (SSgA STIF). In addition, in order to give some perspective on the value added by the Short-Term Fixed Income Portfolio Manager, an index comprised of equally weighted one-year U.S. Treasury Bills over a twelve-month period is included.

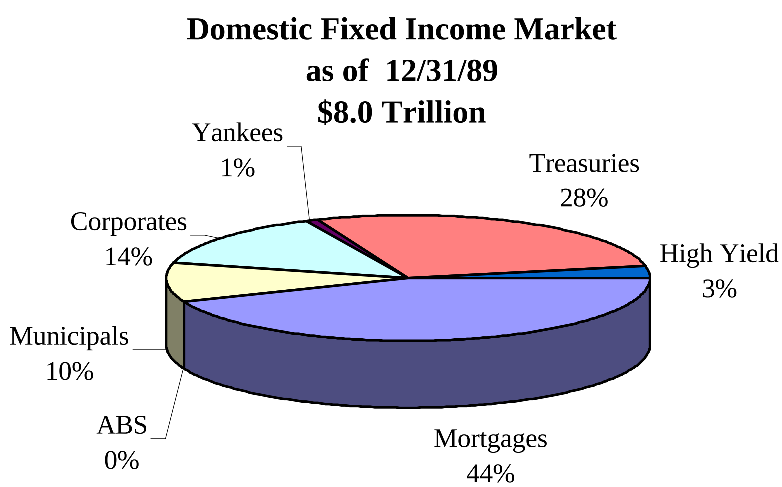


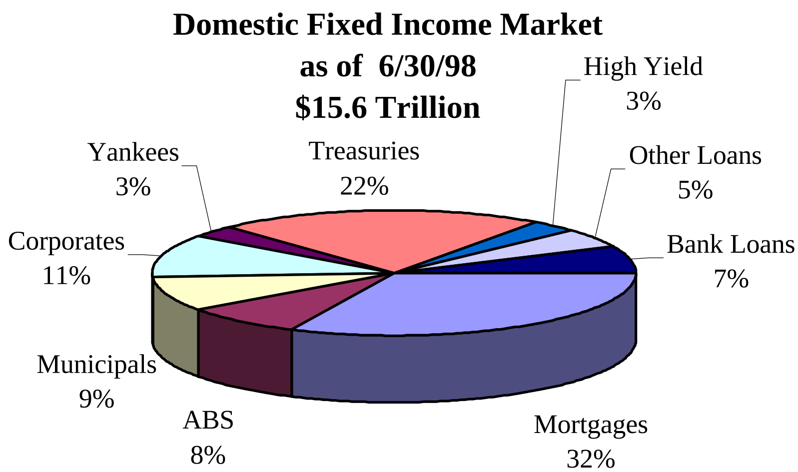
Over the past 12 months, the return for CalSTRS' Short-Term Fixed Income Portfolio has consistently exceeded the risk-free index of one-year U.S. Treasury Bills, and has produced a similar yield to that of the SSgA STIF.

VI. Key Issues

The major issue facing CalSTRS' Short-Term Fixed Income Portfolio management mirrors the one faced within the Long-Term Fixed Income Portfolio. That issue is how to integrate the evolution of the fixed income markets into the portfolio. In addition, the Short-Term Fixed Income Portfolio must consider this issue while continuing to balance the multiple investment objectives of providing safety and liquidity, while achieving the highest return possible that is consistent with a prudent level of risk.

Given the diversification and liquidity roles that they play, institutional investors have viewed both long-term and short-term fixed income assets as critical components of their portfolios for several decades. As investors' interests have evolved, so have the fixed income markets (see the following charts).





Sources: PCA, Lehman, Frank Russell, Credit Suisse First Boston

In the mid-and-late-1980's, publicly traded fixed income opportunities had four major groupings: government bonds (or U.S. Treasuries), mortgage-backed securities, corporate bonds, and municipal bonds (top pie chart). Over the last ten years, the bond market has continued to evolve. Today, many of the minor bond segments of ten-to-fifteen years ago, such as ABS and Bank Loans, are now playing a much larger role (bottom pie chart). All of the proportions of the four major segments have declined, giving ground to the newer, more innovative segments. For example, asset-back instruments (ABS) have grown from virtually no representation 10 years ago to over 8% of the total bond market today. Such is the case with other bond categories, such as bank loans and "other" loans.[3]

Such extension of the bond market, along with the fundamental role and objective of the Short-Term Fixed Income Portfolio, makes the consideration of exposure to these newer instruments important, as CalSTRS continues to consider its overall approach to fixed-income investment.

VII. Staffing

The Fixed Income staff responsible for the management of the domestic short-term fixed income portfolios performs a variety of roles which require extensive knowledge of short-term portfolio management methods, a wide variety of professional and technical skills, and in-depth awareness of factors that influence the valuation of fixed income securities and a thorough understanding of trading techniques. Currently there is one portfolio manager responsible for the management of the Short-Term Fixed Income Portfolio, with one other full-time investment professional lending assistance with the trading, analytical and reporting activities. No other staffing issues are anticipated at this time.

[3] Pension Consulting Alliance, Fixed Income Performance Benchmark Analysis, March 3, 1999.

California State Teachers' Retirement System
Home Loan Program

Business Plan

I. Executive Summary

By policy, the California State Teachers' Retirement System's (CalSTRS, System) Home Loan Program shall be managed in accordance with an annual Business Plan. The objective for this Business Plan is to provide the California State Teachers' Retirement Board (Board) with information relating to the role that the Home Loan Program (HLP) plays within the CalSTRS investment portfolio, including the evolution of the HLP. As a result, this plan document describes the development of the HLP structure, along with potential opportunities, strategies, and implementation objectives planned for the upcoming year. Also covered are any resource/staffing needs associated with the HLP.

II. Program Function and Strategy

The HLP was originally created with a dual purpose of facilitating home ownership for California teachers while providing an investment opportunity for the CalSTRS investment portfolio. This program is not a member benefit and, therefore, engages in loan origination activity consistent with the financial integrity of the program and the sound investment of the retirement fund. The CalSTRS Long-Term Fixed Income portfolio includes a thirty percent (30%) target weighting to mortgage-backed securities (MBS), and the ability to generate these types of securities internally as an alternative to buying them in the open market represents an attractive investment option.

In order to facilitate the development of the CalSTRS HLP, Correspondent Agreements with private lending institutions are established in order to originate and service the mortgage loans. As stipulated within these agreements, 15 and 30-year fixed interest rate conventional mortgage loans are made to members for the purchase or refinance of their one to four family, owner-occupied properties within the State of California. These mortgages are then available for inclusion in the MBS portfolio or sale, thereby providing cash flow for the funding of other investment opportunities.

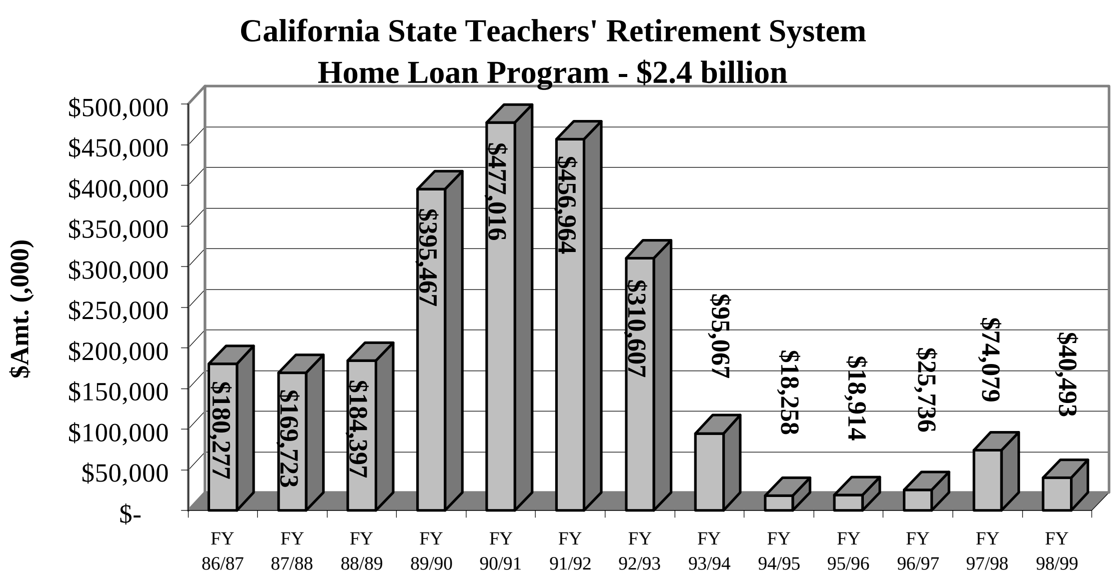
III. Historical Overview

The CalSTRS HLP was established in 1984 as a result of legislation that provided the System with a mortgage-backed investment opportunity, as well as an additional source of home financing for its' members and retirees. Later legislation in 1986, referred to as the Dave Elder State Teachers' Retirement System Member

Home Loan Program Act, enabled the Board to enter into correspondent agreements with private lending institutions in order to facilitate the implementation of the HLP. Up until May 1999, all CalSTRS HLP mortgage loan applications were processed through two Correspondent Lenders: Bank of America and Norwest Mortgage. In order to expand the range of contact for the membership, the number of Correspondent Lenders participating in the CalSTRS HLP was increased, with a pool of up to ten potential participants available to be included within the program at this time. The pool of Correspondent Lenders is anticipated to increase to twenty over the next twelve months.

Senate Bill 1945 (SB1945) represents the most recent update to the CalSTRS HLP, which was passed into law in August 1998. Although much of the original language from the earlier Dave Elder Act has been retained, the new legislation is noteworthy in that it provides the Board the option of considering opening the HLP to borrowers who are not CalSTRS members. This legislation also permits members 100% financing of mortgage loans. One example of such a program involves 95% of the financing secured by the purchased home and 5% secured by accumulated contributions and vested accrued benefits in the member's individual account.

It is estimated that, over the past thirteen years, CalSTRS' HLP has made over 21,000 mortgage loans to members, and funded approximately $2.4 billion in loans. The following chart illustrates the amount funded each year within the HLP since inception.



Over the past six years, CalSTRS' HLP activity has tapered off considerably. During FY 90/91, the HLP was producing nearly $40 million in loans each month.

However, as of FY 98/99, the production had fallen to approximately $3 million per month. This reduction can be attributed to a number of factors, including a rapidly changing mortgage market that provides borrowers with a greater number of mortgage loan options, versus the traditional 15 and 30-year fixed interest rate mortgages and the limited number of Correspondent Lenders participating in the CalSTRS HLP. It is anticipated that the funding levels will pick up as a result of the inclusion of additional lenders and potential new loan programs.

IV. Program Characteristics

One of the 1998/99 objectives approved for the Investment Branch has been to revitalize CalSTRS' HLP within the legislative mandates. As a first step in that process, efforts have been taken to add a number of new Correspondent Lenders to the HLP in order to expand the range of member contact for the program. As of June 1999, a pool of ten Correspondent Lenders has been established. Furthermore, it is anticipated that this pool may nearly double over the next twelve months, in order to provide easy access to the CalSTRS HLP throughout the state for the System's members.

Each of these Correspondent Lenders is responsible for processing 15- and 30-year fixed interest rate conventional mortgage loans to CalSTRS members for the refinance or purchase of their one to four family, owner-occupied properties within the State of California. CalSTRS sets the loan rates, based upon a rate-setting model that uses publicly traded mortgage-backed securities as a basis for establishing the mortgage loan rates. As of March 31, 1999, approximately $210 million in member mortgage loans are being held within the portfolio. Some of the benefits of participating in the CalSTRS HLP are:

- Attractive loan rates based upon market surveys and competitive pricing
- Controlled costs reviewed by CalSTRS staff
- Two free interest rate float-downs prior to final lock and documentation

In addition to providing access to conventional fixed rate mortgage loans, recent legislation was passed that granted the CalSTRS Board the option to provide one hundred percent (100%) financing to qualified members. This 100% financing option is to be structured in such a way that 95% of the financing shall be secured by the purchased home and the remaining 5% shall be secured by accumulated contributions and vested accrued benefits in the member's individual account. This legislation was noteworthy in that, until it was passed, the CalSTRS HLP was limited to providing only generic conventional fixed rate loans. It is anticipated that this 100% financing option will be rolled out shortly and will represent the first step in a series of strategies designed to add value to the CalSTRS HLP beyond the standard program previously being offered.

V. Performance Measurement

Although there is no generally accepted performance measurement standard to judge the HLP, a process has been established in order to identify and monitor the financial contribution of the program. The following analysis identifies the program's net contribution to operations, taking into account the cash flow, cost of funds, excess servicing, and any gains or losses taken from the portfolio as a result of the sale of securities.

The first table shows the financial contribution, using the Liquidity Portfolio yield as the cost of funds while, for comparison purposes, the second table shows the same data using the 5-year U.S. Treasury (UST) yield as the cost of funds.

Financial Report	**7/1/98 to 3/31/99**
Coupon Income	$11,431,118
Cost of Funds (Liquidity Yield)*	(8,564,551)
Net Interest Margin	$ 2,866,567
Excess Servicing Fee Income	$ 644,476
Recognized Gain/Loss	(65,164)
Net Contribution to Operations	$ 3,445,879

*Reflects the Liquidity Portfolio yield as the cost of funds

Financial Report	**7/1/98 to 3/31/99**
Coupon Income	$11,431,118
Cost of Funds (5-year UST yield)*	(8,394,195)
Net Interest Margin	$ 3,036,923
Excess Servicing Fee Income	$ 644,476
Recognized Gain/Loss	$ (65,164)
Net Contribution to Operations	$ 3,616,235

*Reflects the 5-year UST yield as the cost of funds

Assuming production and funding levels do not change materially, it is anticipated that the net contribution to operations for the CalSTRS HLP could reach $4.5 million by fiscal year-end.

VI. Key Issues

The objective for the CalSTRS HLP is to design a program that facilitates homeownership for CalSTRS' membership, yet maintains the investment standard, as well. Inherent in this objective is the desire to design a program that adds value beyond providing generic conventional mortgage loans that the membership can access easily and cost-effectively. As a result, a key decision is the identification of a "core" loan program to offer members that seeks to add value in such a way that addresses needs that have not yet been met. This "core" program could revolve around mortgage loans for new teachers and those without adequate downpayments as a target market. In addition to this "core" program, other mortgage loan products can be offered which, when combined, result in a fully developed HLP that successfully balances both the benefit and the investment mandates.

The passage of the legislation that allowed the Board the option to provide one hundred percent (100%) financing to qualified members who might otherwise not have a downpayment, by pledging a portion of their accumulated contributions, is a first step in developing a program that is designed to add value. However, this option is not optimal for new members who are beginning their careers and, therefore, may not have enough contributions in their retirement account to qualify for a mortgage loan. It is this group, which is anticipated to increase in number, that should be considered in the further development of the HLP.

The CalSTRS HLP would still provide competitive conventional mortgage loans for those members who like the idea of doing business with their retirement system. However, the key issue currently facing the program is the development of a well-rounded, efficient HLP that facilitates homeownership throughout the CalSTRS membership.

VII. Implementation Objectives

1. Report on the revitalization of the Home Loan Program, highlighting the progress achieved in implementing the Business Plan approved in September 1998.

2. Explore additional program enhancements, concentrating on affordability issues such as "no downpayment" or "no points/no fee" loans.

VIII. Staffing

The Fixed Income staff responsible for the management of the CalSTRS HLP performs a number of roles that require a wide variety of professional and technical skills, including an in-depth awareness of factors that influence the mortgage origination and mortgage-backed securities markets. Currently, one staff member is responsible for the oversight and implementation of the HLP. Given the current production levels, additional staff is not necessary. However, given the increased number of Correspondent Lenders and anticipated program enhancements, additional support staff may be needed to assist in administrative responsibilities, such as rate setting, interest rate locks, loan pipeline evaluation, and marketing analysis.

California State Teachers' Retirement System
Internal Equities
Business Plan

I. Portfolio Role and Purpose

This report reviews the rationale and use of internal passive equity management at California State Teachers' Retirement System (CalSTRS). In addition, consideration is given to future applications of internal management within the domestic equities asset class. The objective of this overall review is to provide the Board with foundational information that should prove useful as it considers increasing its commitment to internal equity management over time. Specifically, the report reviews the development and success of the internal passive domestic equity program to date and provides information useful for considering an expansion to this program.

In early 1998 the Board adopted policies and procedures to establish and operate an internal passive management program within the domestic equity asset class. As mentioned earlier, the primary intent of this program was to determine whether Staff could execute such a program in a cost-effective manner while producing investment performance that was competitive with that of CalSTRS' current external passive domestic equity manager. If Staff could achieve such objectives, then other ancillary benefits (such as streamlined management activities, confidentiality, etc.) might also accrue to the overall CalSTRS' investment program.

On March 31, 1999, the internal passive domestic equity program completed its first twelve months of operations. With over one billion dollars of assets under management, the internal program produced performance results that met or exceeded expectations. As a result, a strong case can be made that internal passive management of CalSTRS' domestic equity assets should continue and that the Board should consider expanding the internal program's role through additional fundings and/or asset transfers from the passive external manager.

II. Description and Definitions

A critical function that the Board performs for the CalSTRS' investment program is to establish a broad-based asset allocation policy for the entire CalSTRS' investment portfolio. The Board typically reviews and makes revisions to this policy every two to four years.

In addition, the Board periodically establishes and refines benchmarks used to monitor the performance of the overall portfolio in light of adopted policy. While the Board has access to a variety of benchmarks for analysis, the most critical benchmark for assessing portfolio performance is the "policy benchmark." This benchmark is a combination of various asset class benchmarks that track the investment performance of financial assets with unique characteristics (stocks, bonds, cash, real estate, etc.).

The Board last adopted an asset allocation policy and policy benchmark in mid-1997. Within this policy, the Board established a target proportion for domestic equities of 38% of total portfolio assets. Another way of stating this target is that 38% of CalSTRS' portfolio should produce returns that are equal to or slightly better than those produced by the broad U.S. domestic equity market.

At a 38% proportion of total assets, domestic equities is by far the largest asset class in the CalSTRS' portfolio.[1] There are two primary reasons for investing such a significant proportion of the portfolio in domestic equities. First, domestic equities have produced (and are expected to produce) one of the highest and most consistent long-term real returns[2] of all the major asset classes. This significant real return potential is a major factor in CalSTRS achieving its long-term funding objectives. Second, the broad U.S. domestic equity market is one of the most liquid markets in the world. This market liquidity allows institutional investors such as CalSTRS to implement investment policy on an incremental basis in a cost-effective manner.

Given the relatively high proportional allocation to domestic equities, selecting the appropriate asset class benchmark becomes especially important. Such a benchmark should represent as broad of a sample of the U.S. equity market as possible while, at the same time, allowing institutional investors such as CalSTRS the ability to create portfolios that track the characteristics of the benchmark. This latter capability is critical because portfolios that match the investment results of the asset class benchmark reflect directly the role of domestic equities within the broader asset allocation policy.

In 1996, the Board and Staff considered a variety of domestic equity benchmarks for the domestic equity asset class. After research, analysis, and comparison the Board adopted the Russell 3000 Index as its domestic equity performance benchmark. This benchmark consists of the largest 3,000 U.S.-domiciled companies, weighted by their market capitalization (a company's shares outstanding multiplied by its market price). Importantly, the Russell 3000 Index meets the above two criteria (see prior paragraph) while also maintaining a growing and significant institutional acceptance as an asset class benchmark.

The Russell 3000 Index can also be broken out into a variety of different modules that reflect the major risk factors that influence domestic equity asset class performance over long time periods. Two major risk factors that have dominated equity performance in recent years are: (i) company size and (ii) whether a stock's performance is driven by a company's earnings growth (a growth stock) or its balance sheet (a value stock) – i.e., a "growth vs. value" factor.

Historically, institutional investors such as CalSTRS have utilized another domestic equity index, the S&P 500, as their asset class benchmark. While the companies in the S&P 500 comprise approximately 80% of the Russell 3000 on a market capitalization basis, practitioners discovered that the average company within the S&P 500 was significantly larger than the average company within the broader market. As a result, practitioners and institutional investors began to recognize that the S&P 500 contains a "large company bias" and may not fully reflect the company size

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1 Domestic fixed income, at 26% of total assets, is the next largest asset class.

2 The "real return" is that return in excess of inflation.

characteristics of the broader U.S. equity market. An important outgrowth of this finding is that investors are beginning to treat the S&P 500 as a large-company module within the broader asset class. In other words, from a benchmark construction viewpoint:

Russell 3000	**=**	**S&P 500**	**+**	**the other 2500 stocks**[1]
100%	=	80%	+	20%

Another important factor influencing this construction model is that the investment industry has evolved significantly toward investment products that match the performance of the S&P 500. In fact, equities within the S&P 500 are typically the most liquid of all stocks, making them attractive for developing index matching portfolios (index funds).

Reflecting these trends and the above modular structure, the Board adopted an equivalent domestic equity portfolio structure in 1997 and began implementing this structure in 1998. The two major structural changes mandated by the Board in 1997 were: (i) to maintain a portfolio structure equivalent to that above, but adjusted for actual segment weightings over time; and (ii) place 20% of the assets in "active" mandates and 80% in "passive" mandates. Active mandates are those investment assignments that, in aggregate, the Board expects to <u>outperform</u> the asset class benchmark (the Russell 3000) over an investment cycle. Passive mandates are those assignments that, in aggregate, should <u>match</u> the investment performance of the Russell 3000. CalSTRS' internal passive management program is a segment of the passive component of the domestic equity portfolio.

As of December 31, 1998, the CalSTRS' passive domestic equity portfolio totaled approximately $35 billion. Within the S&P 500 module, Barclays Global Investors (BGI) manages $27.8 billion and $1.2 billion is managed internally by CalSTRS' staff. As mentioned earlier, this structure has been in place since April 1998. The important consideration now before the Board is whether the internal program should be expanded.

Based on the recommendation in the executive summary, raising the account size of the internal program to 50% of the value of the S&P 500 module would make it the largest single account in the overall CalSTRS portfolio (matching the size of externally-managed BGI account). The next several sections of this report review the issues surrounding such an expansion. To begin, the following section reviews the history and development of the internal passive domestic equity program at CalSTRS.

III. Historical Overview

<u>Domestic Equity</u>

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1 This construction model is not exact because the S&P 500 contains a few securities that trade in the U.S. but represent companies that are domiciled outside of the U.S. (such securities are termed "ADRs"). This issue is definitional in nature and has very minor impact on domestic equity benchmark performance.

Prior to 1966, CalSTRS was prohibited from owning equity securities. In 1966, Proposition 6 was passed, which removed the prohibition but placed a statutory limitation on the maximum percentage of equity which could be held in the investment portfolio. Subsequent to this event, the first equity security was purchased in March 1973. By June 1973, CalSTRS had invested approximately 4% of the total investment portfolio (approximately $115 million) into a small number of "blue chip" companies. CalSTRS' equity exposure remained relatively constant varying between 3% and 5% of the total investment portfolio for the next six years with the total market value of the equity exposure growing to approximately $350 million during that period. In 1979 and 1980, there was a change in the asset allocation with the market value of domestic equity portfolio rapidly increasing to 25% of the total investment portfolio.

In 1983, Proposition 21 was implemented, which eliminated the statutory limitations on the equity component of the investment portfolio. During 1985, the general consultant completed an asset allocation review. The recommendation was an increase in domestic equity securities to 50% of the investment portfolio. Historically, this percentage has been the highest allocation to domestic equity.

Subsequent asset allocation reviews have been approved by the Board about every two years, each with a unique combination of domestic and international equity and fixed income percentages. The desire for increased diversification has gradually reduced the domestic equity allocation level to the current allocation of 38%.

From 1973 to 1985, all of the domestic equity was managed in an active style. In implementing the 1985 Investment Management Plan, an initial allocation to passive management was completed in the summer of 1985. Since that time, there has been an increasing reliance on passive management. In mid-1997, the Board established a target proportion of 80% passive management and 20% active management.

Passive Domestic Equity Management

Prior to June 30, 1983, the California Public Employee's Retirement System (CalPERS) Staff managed the total CalSTRS' investment portfolio under an interagency agreement. CalPERS' investment staff was advised by external managers but executed the trade lists for both the CalPERS' and CalSTRS' domestic equity portfolios.

Beginning July 1, 1983, legislation prohibited CalSTRS from using CalPERS' investment personnel. As a result, CalSTRS hired external advisors to assume full responsibility for managing the investment portfolio. In 1985, CalSTRS made its initial allocation to passive domestic equity. From 1985 to 1998, CalSTRS had used only one manager for investment management of the indexed domestic equity portfolio: Barclays Global Investors (BGI) and its predecessors.

In September 1997, the Board committed $1 billion to an internal passively managed S&P 500 portfolio (Portfolio) based upon the recommendation of Staff and PCA. The policies for the

Portfolio were approved in January 1998 and investment management of the Portfolio began on April 1, 1998. The performance of the Portfolio has met or exceeded expectations. However, Staff are facing new challenges due to the relatively small size of the Portfolio. A further explanation is detailed in a later section of this report. See section "VI – Key Issues."

Cash Equitization

On October 7, 1998, the Board approved the concept of a cash equitization program for the domestic equity. The equitization program provides a mechanism that enables the domestic equity exposure to remain closer to the adopted strategic asset allocation policy target. The cash equitization program assures that CalSTRS will maintain market exposure and minimize expected tracking error without impacting the domestic equity manager's investment decisions. The policies for the program were approved in January 1999. The program is scheduled to begin in May 1999 by equitizing approximately $150 million of cash balances.

IV. Current Status of the Internal Passively Managed S&P 500 Portfolio

A detailed examination of the CalSTRS' Indexed Portfolio was conducted for the twelve month period of April 1, 1998 through March 31, 1999. During this first year, the market value of the Portfolio increased $245.6 million to $1.2 billion.

S&P 500 Changes and Adjustments

The Portfolio is managed in such a manner as to minimize "tracking error" versus its benchmark, the S&P 500 Index. This emphasis on tracking requires portfolio management to execute transactions when the composition of the S&P 500 index changes (e.g., deletions, additions, and corporate actions).

For the twelve month period ending March 31, 1999, there were thirty-nine constituent changes. The majority of the changes occurred because of mergers involving an S&P 500 company. Some of the replacement companies were the largest stocks in the Russell Special Small Company Index (RSSC)[1]. Before initiating open market trades, Staff seeks to minimize transactions cost by crossing (transferring securities in-kind) between the S&P 500 Portfolio and Extended Market Portfolio (which replicates the RSSC).

The S&P 500 index is rebalanced quarterly in March, June, September and December. The quarterly rebalancing was the next largest source of turnover after constituent changes.

Ancillary Benefits of Internal Management

[1] The Russell Special Small Company Index consists of approximately 2500 securities comprising the remainder of the Russell 3000 Index.

The tools and resources use to manage the internal portfolio are also being use for efficient planning and execution of: (i) manager transitions, (ii) manager funding, and (iii) manager termination. In each of these instances, the tools developed to manage the internal Portfolio supports the Staff's planning activities and preparation of implementation plans.

The tools also provide Staff with the ability to enhance external equity manager monitoring. Specifically, Staff uses the tools to evaluate externally managed portfolio return, risk and trading costs, providing a clearer perspective on portfolio attributes. The tools not only provide a perspective on how the portfolios are performing, they also help Staff assess portfolio risk and ensure the external manager is adhering to the investment policy. This improved monitoring increases the Staff's awareness and facilitates a more robust dialogue with external active and passive managers.

V. Performance Measurement

The performance objective of the internal Portfolio is to closely track the return of the S&P 500 Index. Table 1 summarizes the results for the Portfolio, the benchmark S&P 500 Index, and the difference, called "tracking error." For the 12 month period ending March 31, 1999, the Portfolio returned 18.49%, while the index return was 0.06% (6 basis points) higher. The returns for the Portfolio incorporated transaction cost but not internal management costs.

Table 1: S&P 500 Performance
For the Twelve Months Ending March 31, 1999

Internal Indexed Portfolio Return	18.49 %
Index Return	18.55 %
Tracking Error	-0.06 %

Portfolio return calculated by State Street Bank Analytics.
The total return for the index was calculated by Wilshire Associates.

The performance results are within policy limits by six basis points. The tracking error is attributable primarily to two factors: (i) cash drag from dividend accruals[1] and (ii) security misweights. Cash drag arises because Standard & Poor's assumes that dividend reinvestment occurs on ex-date for performance calculation. However, the period between the ex-date and actual receipt of the dividend could be two to six weeks after the ex-dividend date. During this period, the Portfolio maintains an accrual that does not earn the market rate of return. The use of S&P futures contracts can alleviate this source of tracking error.

The Portfolio's holdings are maintained extremely close to the index weight. The minor misweights create a small tracking error. In order to track the index closely, the dividends on the constituent stocks are collected and reinvested promptly. Unfortunately, due to the relatively small size of the Portfolio, it is not currently cost-efficient to create a portfolio with holdings equal to the index

1 In a market environment when equity returns exceed returns on short-term cash instruments, the Portfolio would under-perform the benchmark.

weight due to the cost structure for trading odd-lots (less than one hundred shares). As a result, cash flows are invested in one hundred shares round-lot partial baskets. A large Portfolio would help address this misweight issue.

VI. Key Issues

The threshold issue for the Portfolio is whether to increase the size under internal management. A larger fund will make management easier by allowing the purchase of larger baskets and more securities with cash flows that will actually help control tracking error. By increasing the size, the performance of the Portfolio will be enhanced in such a manner as to minimize deviation between the performance of the Portfolio and the index.

In addition, the indexed portfolio manager must continuously weigh the opportunity cost from not investing cash. The manager must hold a small amount of cash for pending corporate actions that will require the portfolio to purchase stock. Currently, the cash held in the Portfolio typically does not exceed 0.05% ($500,000 for a $1 billion portfolio). A larger Portfolio may require a smaller proportion of cash, reducing non-intentional tracking error further.

Recently, a study conducted by a major brokerage firm showed the benefits of managing a larger S&P 500 portfolio. Using round-lot baskets, tracking error to the S&P 500 index drops from 2.15%, when investing in $500,000 increments, to 0.10%, when investing in $10 million increments. The larger the reinvested basket, the smaller the tracking error when the reinvested basket is combined with the original portfolio. The results of this study are summarized in Exhibit 2.

As the portfolio grows, other advantages of enhancement also become available. For example, a very popular enhancement is the "better-than-the-close"[1] guarantees that brokers offer on S&P 500 index changes. These incentives are generally only offered to those funds of significant size. Also, a greater asset base would enable CalSTRS to negotiate more favorable commission rates on specific trades.

Due to the nature of the types of explicit costs of managing an indexed portfolio the expenses actually go down as the size of the portfolio goes up. This is mainly due to the fixed costs of the Portfolio, which spread over a larger asset base.

VII. Implementation Objectives

In addition to managing the internal indexed portfolio, staff provides technical support to other activities in the CalSTRS' investment portfolio. Staff's participation in such projects may add value and enhance the performance of the overall investment portfolio. To improve these abilities over the next twelve months, the following items will be implemented or be given further consideration for application in the domestic equities asset class.

1 Standard & Poor's assumes index changes occurs on effective date at the close of business for performance purposes.

1. Initiate the Cash Equitization program. The cash equitization program will provide a mechanism for the total domestic equity exposure to remain closer to the adopted strategic asset allocation policy target. A cash equitization program would allow CalSTRS to maintain market exposure and minimize expected tracking error without impacting the domestic equity managers' investment decisions.

2. Increase size of the internally managed S&P 500 Indexed Portfolio (Portfolio) to 50% of the total S&P 500 indexed component. The benefits of increasing the size of the Portfolio include the following: (i) decreased tracking error, (ii) control, and (iii) protection. The increase will be funded by a series of transfers ($5 billion every 2-3 months) from the external S&P 500 Indexed Portfolio. The increase will be completed within a six-month timeframe.

3. Acquire other crossing systems. Trading is an integral part of the investment management process. Staff uses a combination of several cost-effective trading strategies. These strategies include crossing with external private crossing entities (e.g., POSIT and Instinet). CalSTRS will expand the use of crossing networks and develop relationships with other firms (e.g., Lattice and OptiMark). This will allow CalSTRS to take advantage of liquidity in the marketplace, while further reducing market impact.

4. Present a report that describes strategies relating to the use of index options in the domestic equity portfolio. The use of options can create risk and return profiles that are either unobtainable with the underlying stocks or too expensive to duplicate with the underlying stocks. The report will review the rationale and use of options for the CalSTRS' investment portfolio.

VIII. Staffing Issues

The Internal Equities Staff (IES) fulfills a variety of roles in the investment management of the internal S&P 500 Portfolio and cash equitization program. The IES requires extensive knowledge of portfolio management methods, a wide range of professional and technical skills, an in depth awareness of factors that influence the valuation of domestic equity securities and equity index futures and options, and a thorough understanding of trading techniques. Currently, there are three full-time investment professionals on the IES team. One additional position has been approved to manage the cash equitization program. An increase in the portfolio size under management would necessitate the addition of one Investment Officer and one support person.

Exhibit 1: Standard and Poor's Versus Wilshire Index Return Calculations

The S&P 500 index return calculation by Standard and Poor's may differ from that calculated by Wilshire Associates. Differences can occur between Wilshire's and Standard & Poor's calculation because Standard & Poor's uses New York Stock Exchange (NYSE) closing prices and Wilshire uses composite closing prices. The composite closing prices reflect trading activity of the index constituents on regional exchanges after the NYSE closes. When the equity market is moving strongly in one direction, closing prices for those S&P 500 stocks that continue to trade on the regional exchanges may differ significantly from the NYSE closing prices.

The differences between Standard and Poor's and Wilshire Associates S&P 500 total return calculation is shown in the table below:

S&P 500 Index Total Return

Month	**Standard & Poor's Return**	**Wilshire Associates Return**	**Difference**
Apr-98	1.006	1.036	-0.030
May-98	-1.719	-1.739	0.020
Jun-98	4.062	4.062	0.000
Jul-98	-1.065	-1.063	-0.002
Aug-98	-14.458	-14.436	-0.022
Sep-98	6.406	6.476	-0.070
Oct-98	8.134	8.095	0.039
Nov-98	6.061	6.063	-0.002
Dec-98	5.762	5.819	-0.057
Jan-99	4.182	4.116	0.066
Feb-99	-3.108	-3.106	-0.002
Mar-99	4.001	4.017	-0.016
Cumulative	18.460	18.550	-0.090

Wilshire Associates' pricing method is employed by State Street Bank in the calculation of index funds returns.

Exhibit 2: Case Study

Parameters for Case Study:

- Start with 2 portfolios, $1 billion and $10 billion, both initially perfect replicas S&P 500 index.
- Reinvest dividends to minimize overall tracking to the S&P 500 Index.
- Dividend rate of 1.4% on a $1 billion portfolio implies roughly $500,000 to be invested biweekly or $1 million to invest monthly.
- Dividend rate of 1.4% on a $10 billion portfolio implies roughly $5 million to be invested biweekly or $10 million to invest monthly.
- Baskets created using ‘round-lot constraint” consist of perfect slices of the S&P 500 with resulting quantities rounded to the nearest 100 shares.

S&P 500 Baskets

	Names	**Shares**	**$ Value**	**Tracking Error**
$500,000 Round Lot	68	7,700	514,502	2.15%
$1,000,000 Round Lot	121	16,300	1,025,604	1.43%
$5,000,000 Round Lot	375	81,500	4,922,201	0.26%
$10,000,000 Round Lot	472	166,400	10,064,583	0.10%

California State Teachers' Retirement System
Investment Operations
Business Plan

I. Role and Purpose

The primary role of the Investment Operations Unit is to provide support and services for all CalSTRS investment activities. In addition to facilitating the timely purchase, sale and accounting for all domestic and international fixed income and equity securities, this Unit must provide support for non security activities such as securities lending, home loan program, credit enhancement, cash equitization, and technology projects and back office systems used to manage CalSTRS' investments.

II. Historical Overview

Through the early 1980s, all investment records were maintained manually on ledger sheets that over time evolved into a hand posted ledger card system. The rapid growth of assets and increasing variety of investment alternatives made the manual system difficult to manage. During this time the California State Treasurer was the sole custodian of CalSTRS' assets until 1987 when, by legislative directive, CalSTRS was permitted to contract for master custody service. A request for proposal was issued and subsequently State Street Bank was selected to provide accounting, record keeping, custody and security clearance responsibilities.

In considering increasing transactions, complex asset composition, and new programs, CalSTRS' Investment Branch implemented a control process focusing on the separation of duties, dual control, and automated processing. To address the various levels of risks in the investment program, a series of policies and procedures were developed to mitigate potential problems. Pension Consulting Alliance, other external experts and investment staff jointly developed methods of operation, which were both efficient and cost effective. The control process is a combination of developing policies and procedures combined with monitoring compliance by internal and external audits and reviews.

The cornerstone of the control process was the creation of the Investment Operations Unit which is responsible for coordinating the activities of the internal and external investment managers and advisors, State Treasurer's Office, State Controller's Office, CalSTRS' Accounting Division, general consultant, master custodian, and the Investment Branch. The operations staff provides assurance that adequate controls are in place to handle the varying activities in the investment program.

III. Current Status

As of June 30, 1999, the CalSTRS portfolio will hold approximately $100 billion of public and private equity and fixed income securities. These investments will span countries throughout the world and include a diverse array of companies. The Investment Operations Unit manages the "back office" activity for all investments in the portfolio including the coordination of internal and external managers, providing investment related reporting as necessary and technological support for investment related systems and software.

IV. Performance Measurement

There is not a generally accepted performance measurement standard to judge the success of the Operations Unit. Some measures to be considered could include 1) timely settlement of all transactions, 2) facilitation of accurate securities and money wire transfers, 3) dissemination of accurate information to internal and external auditors, 4) preparation of accurate information for the Investment Committee, 5) preparation of accurate information to the internal and external investment managers, and 6) participation in the implementation of new programs.

V. Key Issues

Key issues for the Investment Operations Unit include the increase in external managers and added responsibilities due to the implementation or expansion to non security programs such as the Home Loan Program, Securities Lending, and Cash Equitization.

Other key issues revolve around technology and how it is utilized in the investment arena. The world of technology is ever changing and the challenge is to attempt to keep pace. The Operations Unit is charged with the responsibility to assure that the Investment Branch is equipped to manage CalSTRS' multi-billion dollar portfolio.

The final issue is the potential impact of the new millennium on CalSTRS' portfolio, business partners (such as State Street Bank) and general operations.

VI. Implementation Objectives

1. Participate in the planning and implementation process as approved for new or modified investment programs to minimize the disruptions to existing functions, products, and programs.

2. Utilize technology to enhance or improve the investment process such as Bloomberg direct link or PORTIA software.

3. Evaluate enhancements to the real estate cash management program concentrating on the changes caused by the increase in geographic diversification and number of properties serviced.

VII. Staffing Issues

Additional staffing would be required if new programs are added, if activities in current programs are increased, and technology needs continue to evolve. No other staffing issues are anticipated.

California State Teachers' Retirement System
1999 Business Plan for Real Estate Investments

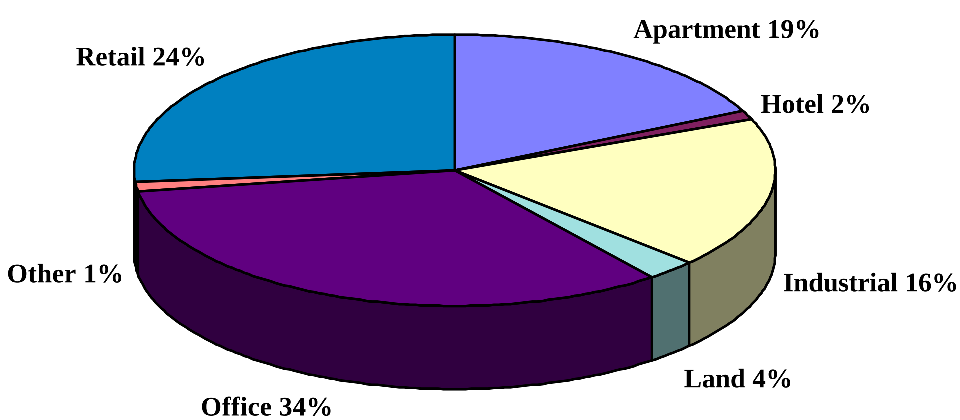
Real Estate Portfolio Role

In accordance with the Investment Management Plan, the California State Teachers' Retirement System (CalSTRS) has established an allocation for investment real estate, an illiquid equity related asset, of 5% of the total assets. The primary role of investment real estate is to improve diversification of the overall investment portfolio. The investment real estate portfolio will have an objective to achieve a rate of return that corresponds to the amount of risk outlined in the real estate portfolio risk/return composite approved by the Investment Committee and to provide a stable cash flow to the overall investment portfolio. The portfolio will incorporate a combination of low, moderate, and high risk real estate investment strategies to implement the approved plan.

Current Real Estate Program

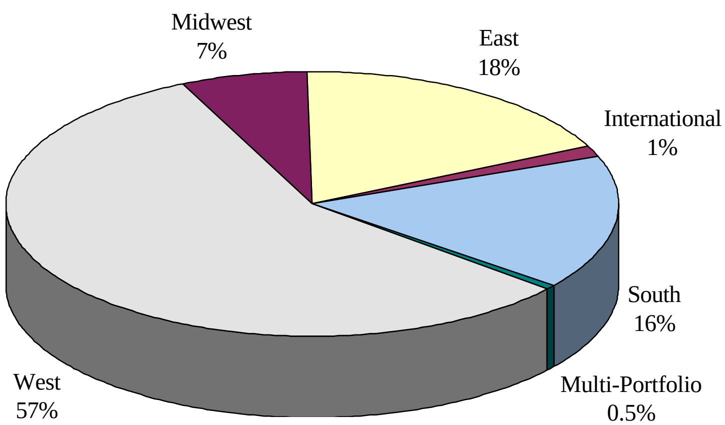
Portfolio Composition - The market value of the CalSTRS real estate portfolio as of December 31, 1998 was $2.2 billion, which represents 2.3% of the total investment portfolio. The real estate portfolio is currently divided into two different investment structures: (1) direct ownership and (2) commingled funds (opportunity funds). Direct ownership properties, which make up 73% of the real estate portfolio, consist of office, industrial, retail and apartments. Commingled funds comprise 27% of the real estate portfolio and consist of limited partnerships investing in a wide range of property types that vary from land development to loan portfolios. The following chart identifies the various property types within the CalSTRS total real estate portfolio as of December 31, 1998.

Property Type Diversification
As of December 31, 1998



Approximately 60% of the CalSTRS real estate portfolio is invested in office and retail property types, which corresponds to the general pension real estate market (as identified by the NCREIF Property Index). About 66% of those property types are in office and retail. The geographic diversification of the CalSTRS real estate portfolio is heavily weighted in the Western region. Approximately 57% of the CalSTRS real estate portfolio is located in the NCREIF Western region. The following chart identifies the geographic regions for the CalSTRS properties as of December 31, 1998.

Regional Diversification
As of December 31, 1998



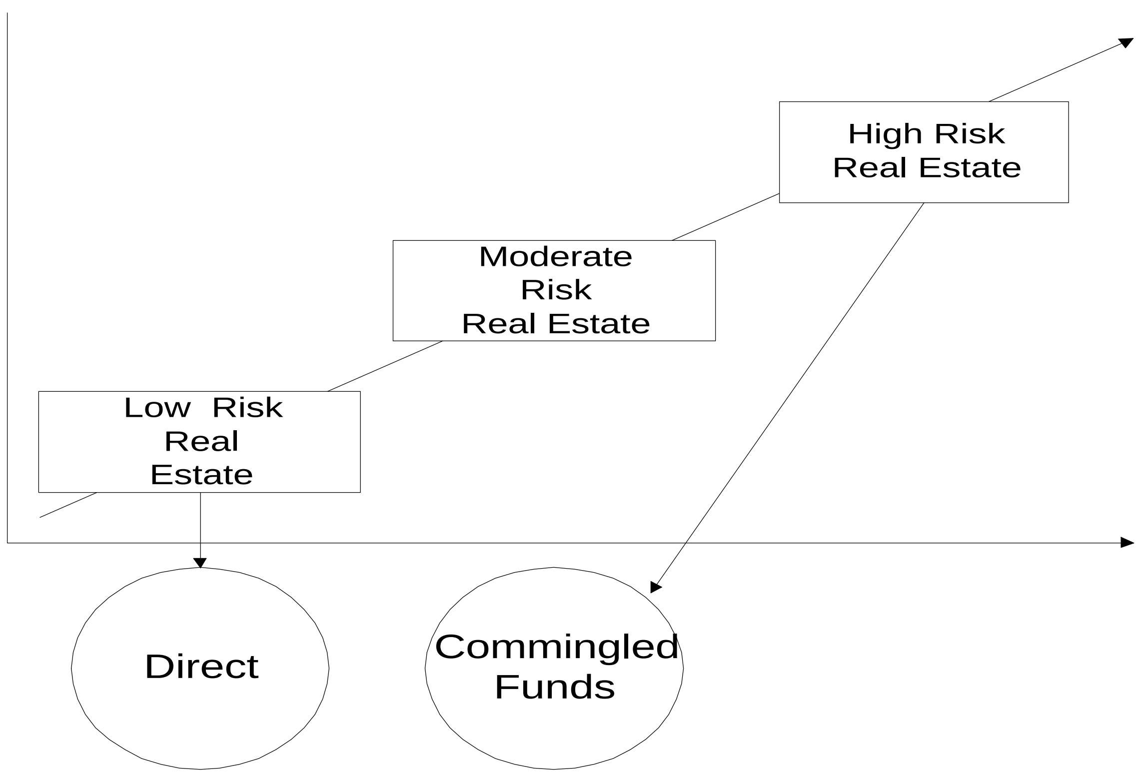
External Advisors and Commingled Funds - All the direct ownership real estate assets are managed by external advisors acting as fiduciaries. These advisors purchase, manage, and sell properties. The following table identifies CalSTRS' current real estate advisors and the estimated December 31, 1998 market value of the portfolios under management.

Lend Lease	$630 million
CB Richard Ellis	670 million
SSR Realty Advisors(Apartment Only)	179 million
MIG Realty Advisors(Apartment Only)	127 million
Total Direct Ownership Portfolio	$1,606 million

In the commingled fund investment structures CalSTRS is one of several limited partners within a limited partnership. These funds have a broad mandate and can invest in real estate related assets. A portion of each partnership can be invested outside the United States. CalSTRS' opportunistic funds and their current market values as of December 31, 1998 are shown below:

Colony Fund II	$134 million
Morgan Stanley Fund II	191 million
Lazard Freres Strategic Investors	244 million
Total Commingled Funds	$569 million

Composite Risk/Return profile for the Real Estate Portfolio – The CalSTRS real estate policies identify a strategic target composite risk profile of 75% low to moderate risk assets and 25% moderate to high risk assets. CalSTRS currently holds 73% of its real estate portfolio in low risk direct ownership assets and 27% in high risk commingled funds. The following chart shows CalSTRS' approved composite risk profile and investment structures:



Current Real Estate Policy Summary - The Investment Committee approved the Real Estate Policies at the July 1998 Investment Committee meeting. The following table summarizes CalSTRS' Real Estate Policies:

1. Laws and Statutes	1. Identified and addressed.
2. Role of Real Estate	2. Diversification, yield, and cash flow.
3. Risk Composition	3. 75% low to moderate 25% moderate to high.
4. Cash Flow	4. Meet or exceed the actuarial rate over 5 yr
5. Property Type	5. Industrial, Office, Retail, Apartments, Land, Single Family, Natural Resources.
6. Geographic Location	6. Mid-West, East, South, West and International.
7. Investment Ownership Structure	7. Direct, Commingled Funds, Public Securities.
8. Diversification Guidelines	8. Shown as Exhibit #2 in the Real Estate Policies.
9. Investment Limitations	9. Varied levels of dollar amounts that an individual can invest.
10. Discretionary Authority	10. $100 million delegation to Staff.
11. Authorized Signers	11. Notification of signer and/or changes.
12. Policy Reporting	12. Real Estate consultant monitors and reports policy to the Board.
13. Performance Benchmark	13. Use NCREIF Property Index to benchmark real estate portfolio.
14. Annual Business Plan	14. Presented in May 1999.
15. Portfolio Reporting	15. PCA to report on a semi-annual basis.

Performance and Benchmark - The current performance benchmark for CalSTRS' real estate portfolio is the NCREIF Property Index. The following table compares the returns of CalSTRS' real estate portfolio with the NCREIF Property Index over the past one, three and five year period and since inception period (1983).

CalSTRS' Real Estate versus NCREIF Index
December 31, 1987 through December 31, 1998

	One Year	Three Years	Five Years	Since Inception
STRS Real Estate	20.6%	15.3%	12.2%	4.8%
NCREIF Index	16.1%	13.4%	10.8%	6.7%

LOW RISK REAL ESTATE INVESTMENT STRATEGY

The low risk component of the CalSTRS real estate portfolio was established by Investment Committee approval of the Real Estate Policies. The policy for low risk investing incorporated a diversification strategy by property type and geographic region. Current CalSTRS' risk allocation policy identifies a strategic target of 75% of the real estate portfolio to be invested in low to moderate risk and 25% in moderate to high risk. This business plan redefines the strategic risk into separate categories for low, moderate and high risk. Under the low risk category, Staff proposes a strategic target of 50% with a range of 40% to 75% of the total real estate assets. PCA has determined that this reclassification of risk categories will not affect the overall risk profile of the real estate portfolio currently identified in the Real Estate Policies.

Low risk real estate is defined as:

1. Expected real rate of return of up to 6% (after inflation)
2. Traditional property types (industrial, office, retail and apartments)
3. Substantially leased at acquisition (higher than 90% leased)
4. No leverage on the property
5. Cash flow from property is the largest component of return
6. Properties located in large and diverse geographic areas in the U.S.

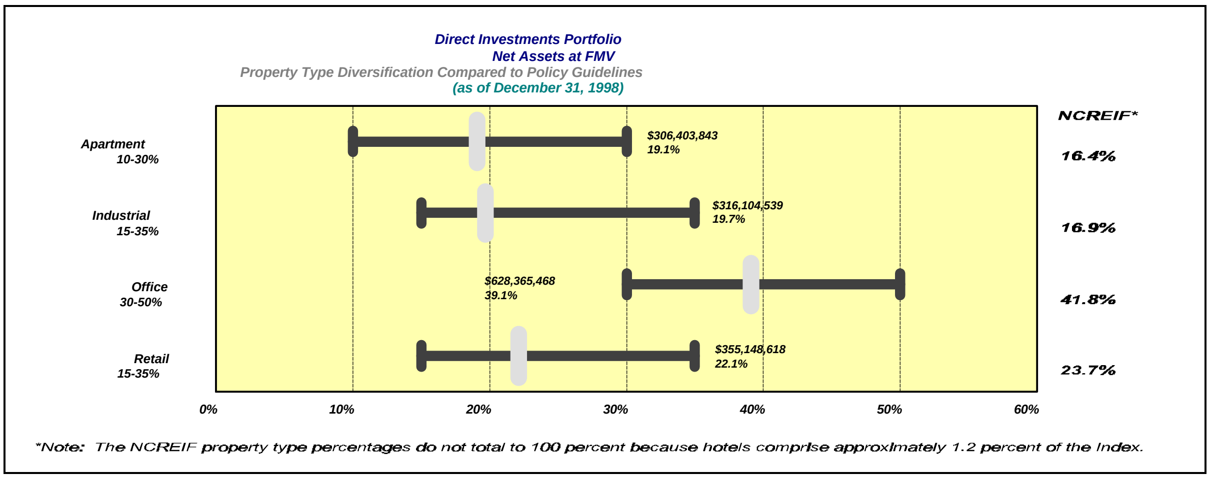
Investment structure for public pension funds consist of direct ownership, commingled funds, and public securities. CalSTRS primary investment structure for owning low risk real estate has historically been direct ownership. The primary advantages of direct ownership of low risk assets compared to commingled funds or public securities is the control of the fee structure, dedicated personnel, and geographical diversification.

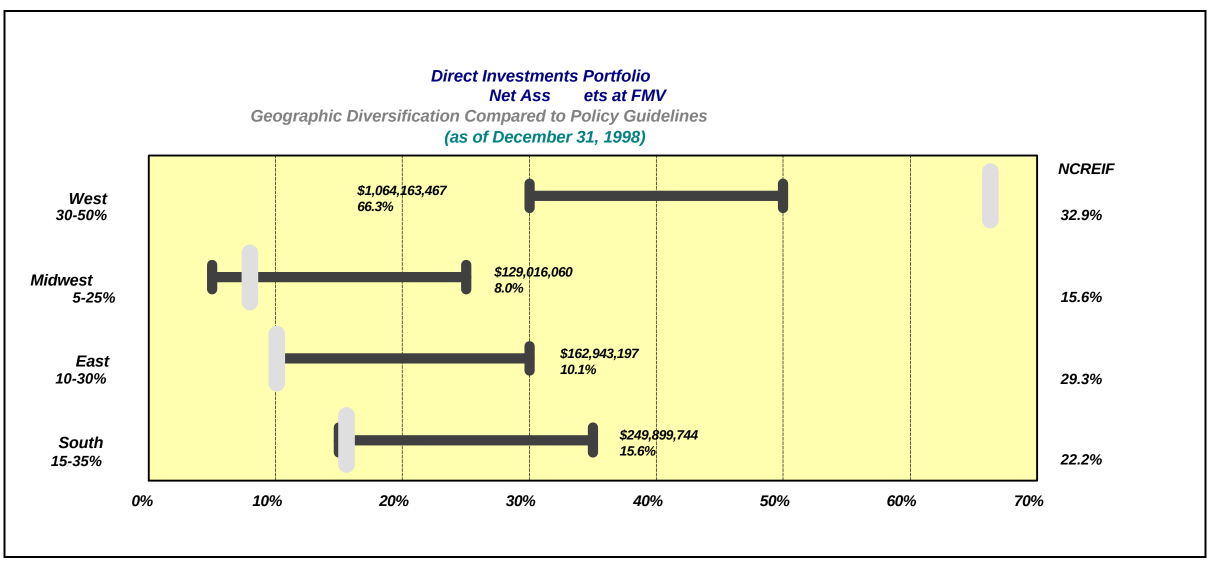
Benchmarking the performance of low risk real estate assets is accomplished through the use of the NCREIF property index. This index has been a proxy for low risk institutional real estate since 1979. The NCREIF property index consists of 2600 properties with a market value of over $64 billion. The property type composition is primarily office, industrial, retail and apartments. The CalSTRS low risk investment strategy generally reflects the NCREIF regional weighting and product type concentration, thus enhancing the ability to monitor this low risk program and manager performance.

Allocation targets - Given an allocation to real estate of 5% of the total fund, a 50% target allocation for low risk real estate would be approximately $2.5 billion. Currently CalSTRS has $1.6 billion in low risk assets. Approximately $1 billion (net of sales and transfers) of low risk assets would need to be acquired over the next 3 to 5 year period to meet the proposed allocation.

Manager discretion – At the September 1998 Board meeting, the Investment Committee approved the RFP to hire managers that would have "discretion in a box" to purchase, manage and sell direct low risk real estate assets. Exhibit D is the Investment Committee presentation by PCA on discretion. This exhibit identifies generic examples of "discretion in a box".

Low risk diversification criteria and strategy - The CalSTRS Policy currently defines two diversification criteria for direct ownership of low risk real estate. These two criteria are geographical location and property type. The following two charts reflect the approved ranges for low risk real estate assets. The grey bar represents CalSTRS' portfolio composition of low risk assets relative to the ranges. Under the low risk strategy, Staff will allocate discretionary funds to advisors to keep the low risk portfolio within the approved ranges outlined below. A near term objective is to bring the Western region within the geographical range by emphasizing purchasing in other regions or selling at the appropriate time in the Western region. Another secondary objective to rebalance the low risk portfolio would be to reallocate a select group of low risk assets to the moderate risk category by adding leverage.





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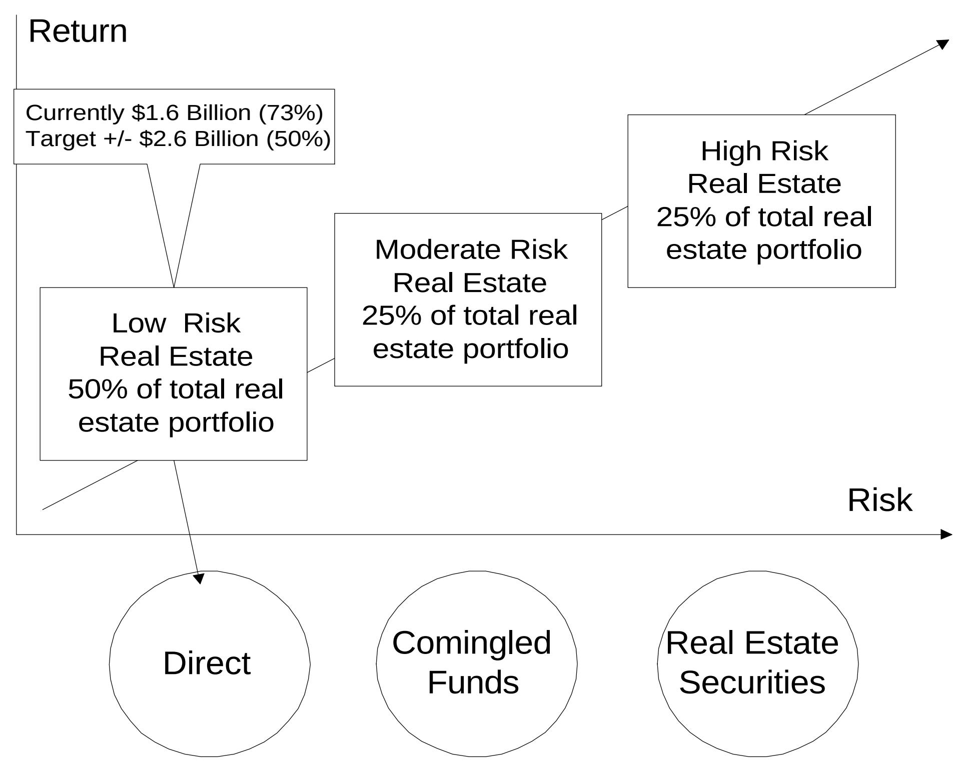
Implementation Strategy for Low Risk

- Finalize contracts with new and existing managers.
- Complete individual discretionary mandates for each manager (example in Exhibit D).
- Bring the low risk portfolio within the diversification ranges identified in the real estate policy by purchasing, selling, or restructuring properties.

The following chart identifies the overall investment relationship for the low risk investment strategy, identifying investment structure, managers, risk/return allocation and target investment allocation.



Low Risk Managers
CB Richard Ellis
Lend Lease
SSR Realty Advisors
MIG Realty Advisors
Thomas Development *
Lowe *
Sentinel *
Clarion *
Heitman *

* Designates newly selected managers

MODERATE RISK REAL ESTATE INVESTMENT STRATEGY

The moderate risk component of the CalSTRS real estate portfolio was established by Investment Committee approval of the Real Estate Policies. CalSTRS' current risk allocation policy identifies 75% of the real estate portfolio to be invested in low to moderate risk and 25% in moderate to high risk. This business plan redefines separate categories for low, moderate and high risk. Under the moderate risk category, Staff proposes a strategic target allocation of 25% with a range of 10% to 30% of the total real estate assets. PCA has determined that this reclassification of risk categories will not affect the overall risk profile of the real estate portfolio already approved in the Real Estate Policies.

The policy change for moderate risk investing will not incorporate a diversification strategy by property type or geographic region like the low risk strategy. A moderate risk strategy may be more tactical with shorter holding periods allowing for property types and locations to be underweighted or overweighted for limited periods of time.

Moderate risk real estate is defined as:

1. Expected real rates of return between 6% to 12% (after inflation)
2. Traditional and non traditional property types (includes timber, hotels)
3. Partially leased at acquisition (higher than 50%)
4. Moderate leverage (up to 60% loan to value)
5. Cash flow and appreciation are both large components of future value
6. Geographically concentrated within the U.S.

Investment structure for the moderate risk component will consist of direct ownership and commingled funds. Moderate risk real estate can be more tactical in nature than low risk real estate which may require specific expertise and experience from managers. One advantage of direct ownership of moderate risk assets over commingled funds or public securities is the control of the fee structure and dedicated personnel. However, the commingled fund structure allows Staff to utilize, through a limited partnership structure, very specific strategies and companies that would be difficult to replicate through direct ownership.

Benchmarking the performance of moderate risk real estate assets has not been formally established by the pension industry. Since moderate risk assets have a higher risk/return expectation than low risk assets, Staff is proposing that it use the NCREIF property index plus 200 basis points for the benchmark.

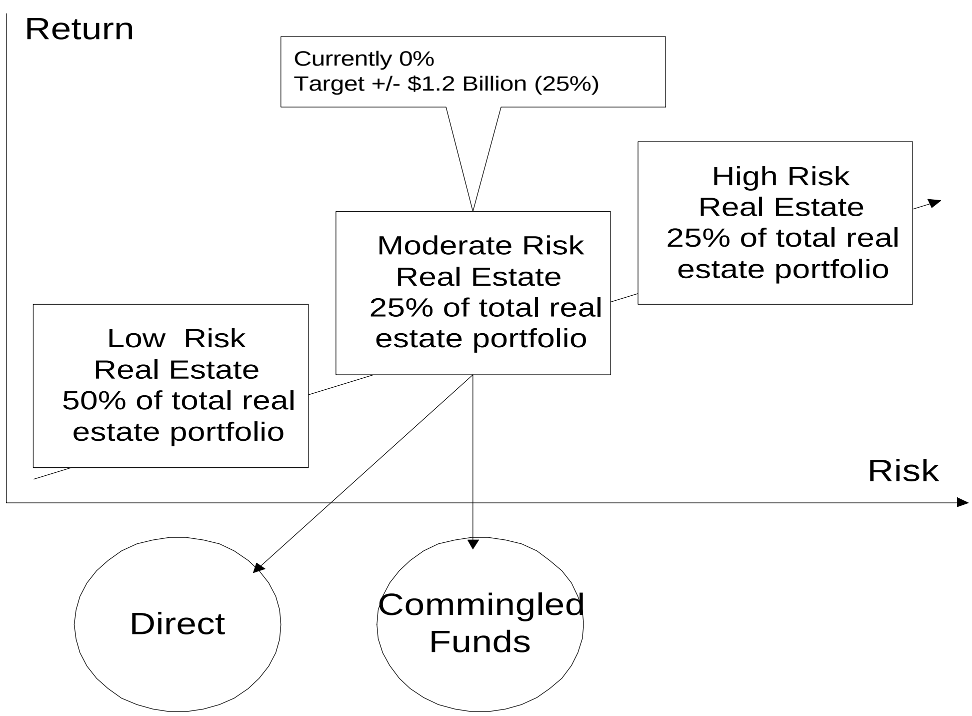
Allocation targets - Given an allocation to real estate of 5% of the total fund, a 25% strategic target allocation for moderate risk real estate would be approximately $1.25 billion. Currently CalSTRS has no moderate risk assets. Approximately $1.25 billion (net of sales and transfers) of low risk assets would be acquired over the next 3 to 5-year period to meet the proposed allocation.

Leverage for moderate risk real estate assets is incorporated in the definition for moderate risk real estate investing. As part of fully implementing the moderate risk investment strategy, leverage guidelines will be refined and included in the real estate procedures.

Implementation Strategy for Moderate Risk

- Finalize contracts with new and existing managers.
- Establish leverage guidelines for new financing.
- Monitor managers' performance based on NCREIF sub region and product type plus 200 basis points.
- Evaluate moderate risk commingled funds.

The following graph identifies the overall investment relationship for the moderate risk investment strategy, identifying investment structure, managers, risk/return allocation and target investment allocation. The same managers identified under the low risk strategy will also purchase direct moderate risk real estate assets on a non-discretionary basis.



<u>Moderate Risk Managers</u>
Same as low risk managers

<u>To be determined</u>

HIGH RISK REAL ESTATE INVESTMENT STRATEGY

The high risk component of the CalSTRS real estate portfolio was established by Investment Committee approval of the Real Estate Policies. CalSTRS' current risk allocation policy identifies 75% of the real estate portfolio to be invested in low to moderate risk and 25% in moderate to high risk. This business plan redefines separate categories for low, moderate and high risk. Under the high risk category, Staff proposes to continue the strategic target allocation of 25% with a range of 10% to 30% of the total real estate assets. PCA has determined that this reclassification of risk categories will not effect the overall risk profile of the real estate portfolio already approved in the currently approved real estate policies.

The policy change for high risk investing will not incorporate a diversification strategy by property type or geographic region like the low risk strategy. A high risk strategy will be more tactical with shorter holding periods allowing for concentration in selected property types and locations.

High risk real estate is defined as:

1. Expected real rate of return higher than 12% (after inflation)
2. Non traditional property types (includes mini-storage, senior housing)
3. Vacant or construction related (includes new development and redevelopment)
4. Moderate to high leverage (between 50% to 90% loan to value)
5. Appreciation is the largest component of future value
6. Geographically concentrated; potentially international locations

Investment structure for the high risk component will consist of direct ownership and commingled funds. CalSTRS currently owns high risk real estate assets in only the commingled fund investment structure. High risk real estate is more tactical in nature than low risk real estate requiring specific expertise and experience from managers. One advantage of direct ownership of high risk assets over commingled funds or public securities is the control of the fee structure and dedicated personnel. The commingled fund structure allows Staff to utilize, through a limited partnership structure, very specific strategies and companies that would be difficult to replicate through direct ownership.

Benchmarking the performance of high risk real estate assets has not been formally established by the pension industry. Given that high risk assets have a higher risk/return expectation than low and moderate risk assets, Staff is proposing that it use the overall NCREIF property index plus 500 basis points.

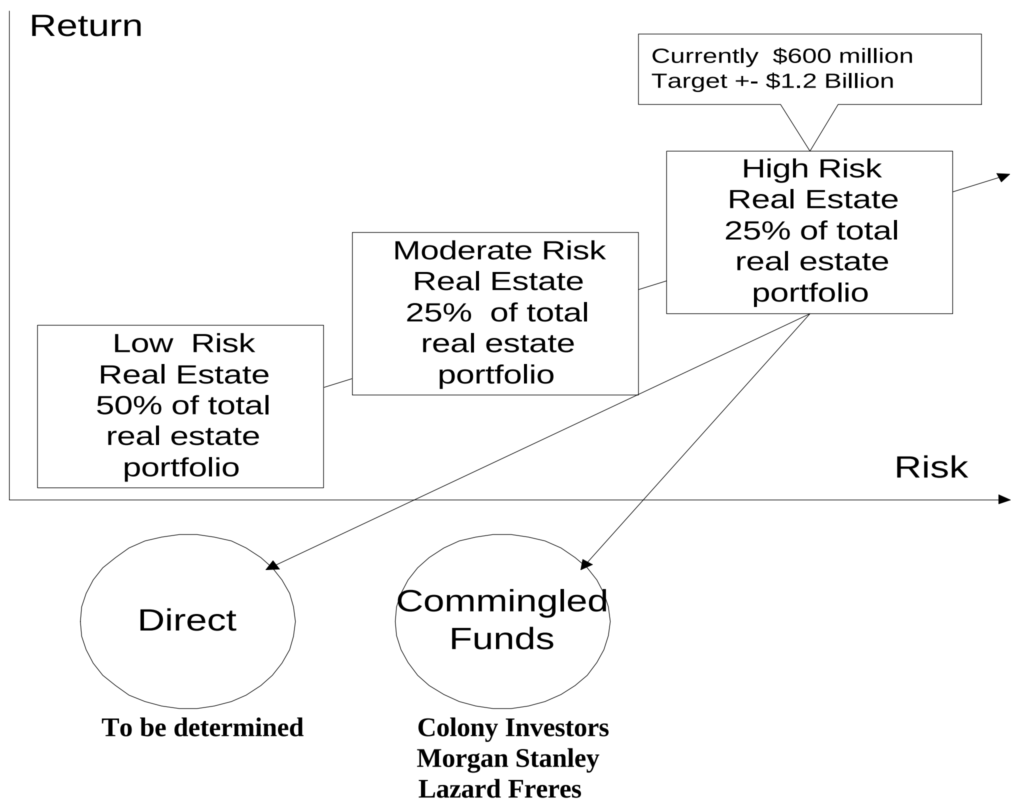
Allocation targets - Given an allocation to real estate of 5% of the total fund, a 25% target allocation for high risk real estate would be approximately $1.25 billion. Currently CalSTRS has $600 million invested in high risk assets. Approximately $600 million (net of sales, distributions and reallocations) of high risk assets would be acquired over the next 3 to 5 year period to meet the proposed allocation.

Leverage for high risk real estate assets is incorporated in the definition for high risk real estate investing. As part of fully implementing the high risk investment strategy, leverage guidelines will be refined and included in the real estate procedures.

Implementation Strategy for High Risk

- Establish leverage guidelines for new financing.
- Evaluate new high risk commingled funds.
- Monitor investment performance based on the overall NCREIF property index plus 500 basis points.
- Establish specific programs, for Investment Committee approval, for direct high risk investments.

The following graph identifies the overall investment relationship for the high risk investment strategy, identifying investment structure, risk/return allocation and target investment allocation.



OVERALL IMPLEMENTATION OBJECTIVES

Continue investing toward strategic allocation targets – The following chart identifies proposed strategic allocation targets for each of the risk categories for the next three-year period.

Risk Category	Current Allocation	Target Allocation	Allocation Differential	Annual Avg. Funding
Low Risk	$1.6 Billion	$2.5 Billion	$900 Million	$300 Million
Mod. Risk	0	$1.25 Billion	$1.25 Billion	$400 Million
High Risk	$600 million	$1.25 Billion	$650 Million	$200 Million
Total Portfolio	$2.2 Billion	$5 Billion	$2.8 Billion	$900 Million

Establish New Investment Programs – The following programs will be evaluated during the course of the year and maybe brought before the Investment Committee for approval:

- Multi-family development and rehabilitation
- Single family residential development
- Urban redevelopment
- Commingled Funds weighted specifically toward California investing
- Explore the use of REIT's in the real estate portfolio

Staffing - The inclusion of multiple types of moderate risk and high risk investments may necessitate two additional Investment Officers and one Assistant Investment Officer. The timing of the positions will be dependent on the implementation of programs. One Investment Officer position will be associated with the creation of an in state program for single family and multi-family housing. One Investment Officer position will be primarily associated with the implementation of a moderate risk (adding leverage, leasing risk, etc.) strategy in addition to selecting and monitoring opportunistic types of commingled funds. The Assistant Investment Officer will be primarily responsible with maintaining and updating the on-line data system.

Exhibit A

DEFINITIONS and DESCRIPTIONS OF REAL ESTATE TERMS

Advisor – A company which, by contractual agreement, provides property investment opportunities and/or property asset management services.

Appraisal – An estimate or opinion of market value.

Appreciation – The percentage change in the market value of a property or portfolio over the period of analysis.

Asset Management – The various disciplines involved with managing real property assets from the time of investment through the time of disposition. Proper asset management plans and policies include requirements for operating and capital budgets; property management; leasing; physical property analysis; operational and financial reporting; appraisal; audits; accounting policies; and asset disposition plans (hold/sell analyses).

Benchmark – An index derived from database information which allows for comparative performance evaluation within an asset class.

Capital Improvements – Expenditures that cure or arrest deterioration of property or add new improvements to prolong its life.

Co-investment – Investments where the management organization has a capital investment and ownership share.

Commingled Fund – A term applied to all open-end and closed-end pooled investment vehicles designed for institutional tax-exempt investors. A commingled fund may be organized as a group trust, partnership, corporation, insurance company separate account, private real estate investment trust or other multiple ownership entity.

- **Open-end Fund** – A commingled fund with no finite life, that allows continuous entry and exit of investors, and typically engages in ongoing investment purchases and sale activities.
- **Closed-end Fund –** A commingled fund with a stated termination date, with few or no additional investors after the initial formation of the fund. Closed-end funds typically purchase a portfolio of properties to hold for the duration of the fund and, as sales occur, typically do not reinvest the sales proceeds.

Discretion – The level of authority given to an advisor over the investment and management of a client's capital once that capital is allocated to the advisor.

Direct Investment – An investment in which CalSTRS has a direct ownership interest in a property or group of properties.

Fair Market Value – The highest price a property would bring if exposed for sale in the open market by a willing seller to a willing buyer with both parties being fully informed of all the uses and purposes to which the property is reasonably adaptable and available.

Ground Lease – A lease of land only, not including any improvements on the property.

Income – The component of return derived from property or portfolio operations during the period of analysis.

Internal Rate of Return (IRR) – The actual (or projected) dollar-weighted holding period return produced by an asset, calculated with consideration for all items of cash in and cash out.

Joint Venture – An investment structure wherein differing and often disproportionate ownership interests are acquired by the individual venture partners.

Limited Partnership – A partnership with both general and limited partners in which the general partner manages the business and assumes full liability for the partnership obligations with the liability of the limited partners generally restricted to their capital contributions.

NCREIF Index – National Council of Real Estate Investment Fiduciaries Index; a property-level performance benchmark for institutionally owned real estate, calculated on a quarterly basis.

Net Operating Income – Rental and other income of a property, less operating expenses but before the deduction of capital expenditures and debt service.

Opportunistic – A phrase characterizing investment in underperforming and/or undermanaged assets typically purchased from distressed sellers; utilizing high levels of leverage with the expectation of near-term increases in cash flow and value.

Property Management – The various functions that are performed at the property level in order to assure timely collection of rents, payment of expenses and supervision of on-site activities.

Real Rate of Return – Yield to the investor after adjusting for inflation (typically determined by the Consumer Price Index).

Total Return – The sum of the income and appreciation returns.

Value-Added – A phrase commonly used by advisors to describe a management approach to a property with the connotation that their skills will add value which otherwise would not be realized.

California State Teachers' Retirement System
Securities Lending Program

Business Plan

I. Executive Summary

By policy, the California State Teachers' Retirement System's (CalSTRS, System) Securities Lending Program shall be managed in accordance with an annual Business Plan. The objective for this Business Plan is to provide the California State Teachers' Retirement Board (Board) with foundational information regarding the securities lending process, along with background information related to the evolution of the Securities Lending Program at CalSTRS. As a result, this plan document describes the development of the strategy to securities lending taken by CalSTRS, along with the program structure and performance measurement issues. In addition, some of the key issues associated with the management of a securities lending program are discussed, as are implementation objectives planned for the upcoming year, including any resource/staffing needs.

II. Program Function and Strategy

Securities lending and borrowing transactions were originally instituted by broker-dealers as a means to cover failed trades. However, the securities lending market is no longer limited to broker-dealers transacting with each other to facilitate security settlement, and there are approximately $600-800 billion worth of securities loaned worldwide. The development of global financial markets around the world has provided an environment that is conducive to securities lending and borrowing. Not only have performance-oriented investors (e.g. hedge funds) entered the market globally by borrowing securities from multiple sources in order to support their investment strategies, but security holders, such as pension plans and mutual funds, have also recognized the opportunity for incremental income from securities lending. [1]

Securities Lending is an agreement between a lender and a borrower to transfer ownership of a security temporarily in order to earn additional income. The lender retains ownership rights of the security and is entitled to any distributions that occur with respect to that security during the life of the loan, such as coupon and dividend payments. The borrower backs the agreement by delivering collateral to the lender, either in the form of cash, which is currently the dominant form of collateral in securities lending transactions, or other liquid securities, in an amount that exceeds the market value of the securities borrowed. At the end of the loan or on a periodic basis, the lender is compensated.

[1] Equity Securities Lending, Morgan Stanley & Co. Incorporated, 1998.

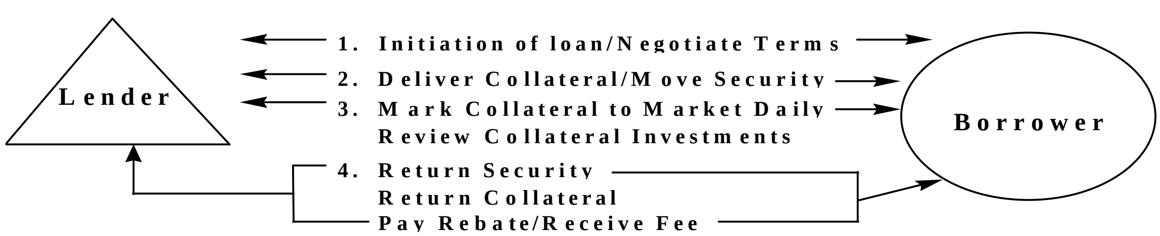
CalSTRS has developed a Securities Lending Program designed to enable the System to use its existing asset base and investment expertise to generate additional income. The income generated from any particular loan is dependent upon two factors: 1) the negotiated lending terms agreed to at the outset of the loan (i.e. the rebate rate) and, 2) the return generated from the management of the cash taken as collateral for the loan.

The rebate rate represents payment to the borrower for the use of the collateral, and is normally received in the form of cash. The level of the rebate rate is the direct result of a number of factors, including: 1) desirability of the issue, 2) length of the lending agreement and, 3) level of prevailing interest rates. There is a definitive securities lending market, within which each of these factors is continuously being considered, evaluated and priced.

The return attributable to the management of the cash collateral constitutes approximately half of the income generated by securities lending transactions, while representing primarily all of the risk. That is because the return on the investments made with the cash collateral must exceed the rebate rate paid to the borrower (for the use of that cash) in order to be profitable. In other words, if the cash collateral does not provide a return exceeding the rebate rate or if the investment incurs a loss in principal, part of the payment to the borrower must come from the lender's resources. (It should be noted that CalSTRS mitigates this risk by maintaining a considerable amount of control over the investments allowed within its cash collateral portfolios.)

As the following chart indicates, the securities lending process begins with the negotiation of the terms of the loan with the borrower.

SECURITIES LENDING PROCESS...



Source: State Street Bank

It should be noted that the credit-worthiness of each borrower is evaluated prior to executing a Securities Lending Agreement, and the credit lines of each borrower are reviewed on a regular basis. Step one of the process involves loan negotiations between the lender and the borrower. During these negotiations, it is determined whether the loan will be overnight, open (terminable on demand), or for a specified period of time. In the second step, the securities are transferred to the borrower once the Master Custodian/Sub-Custodian has received the collateral. There is no movement of securities until the appropriate collateral has been received, on a delivery-versus-payment basis. In the third step of the process, collateralization levels and, if applicable, the investments made with collateral taken in the form of cash are monitored regularly, subject to the approved investment guidelines. The purpose of the monitoring is to verify the maintenance of the original agreed upon levels, and to mitigate the risks of a significant move in the market that would devalue the securities lent. Finally, at the end of the loan, the collateral is returned to the borrower once the Master Custodian/Sub-Custodian has received the security. It is also at this point that the lending income is received.

CalSTRS manages its Securities Lending Program within the following arrangements, in an attempt to provide an appropriate balance between risk control and diversification:

- Agent Lending/Agent Cash Collateral Management
- Agent Lending/CalSTRS Cash Collateral Management
- Principal Lending/CalSTRS Cash Collateral Management

Under the first arrangement, a portion of the Securities Lending Program is managed on an agent basis, in which both the lending terms and the collateral management are the responsibility of an external contractor acting as a fiduciary for CalSTRS. Under the second arrangement, the external contractor negotiates the lending terms, while the cash collateral is managed internally within CalSTRS' Fixed Income Unit. Under the final arrangement, a portion of the program is managed on a principal basis, in which the responsibility for both the lending terms and the collateral management belong to CalSTRS Fixed Income staff. This strategy has been designed to benefit from both diversification and competition, resulting in a Securities Lending Program that provides less volatile and more consistent incremental income over time.

III. Historical Overview

CalSTRS first began lending its assets, which were entirely domestic at the time, in 1988, through its Master Custodian (State Street). In 1990, the Securities Lending Program was modified from a custody bank lending program to a multi-lender program. This change coincided with a considerable increase in the volume of securities on loan and amount of income received. In 1992, as CalSTRS began investing internationally, the Securities Lending Program was expanded to include those assets, as well. By 1994, the program had grown to warrant further diversification, and additional lenders were selected for the domestic stock and U.S. Treasury lending. In 1997, the international equity lending was expanded to include another lender in the process. It was also in 1997 that the Investment Committee approved a proposal to begin internal management of a portion of the securities lending activity. In June 1998, approval was given to further expand the nature and size of the internal Securities Lending Program.

IV. Program Characteristics

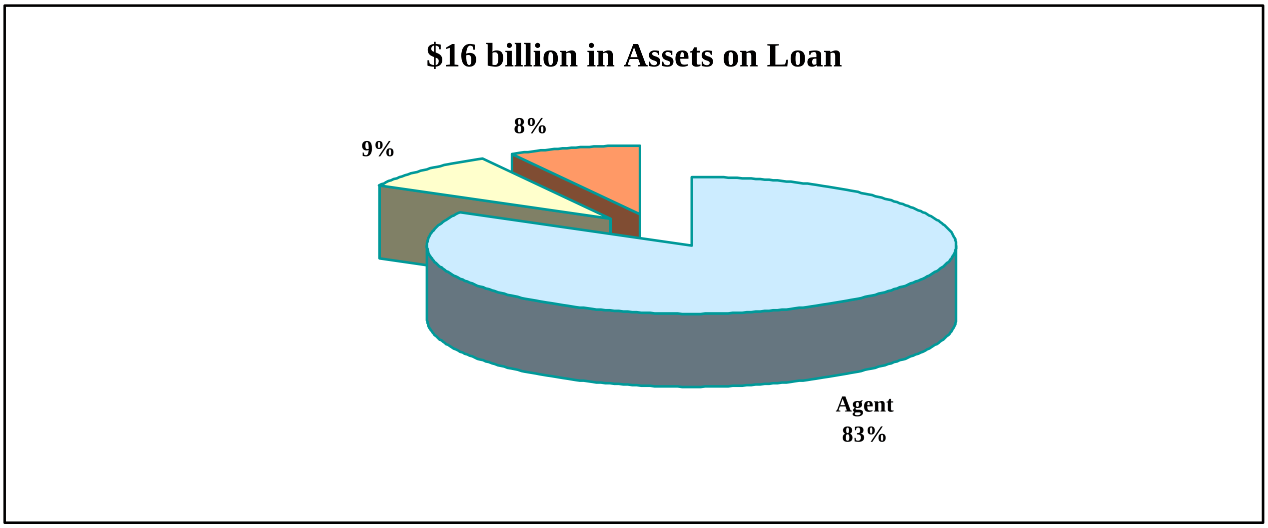
Of the nearly $95 billion in assets that CalSTRS had under management as of March 31, 1999, approximately 75%, or $70 billion, could be considered to be potentially lendable.[2] Furthermore, of this $70 billion of potentially lendable assets, the CalSTRS Securities Lending Program maintains on-loan balances of approximately twenty-five percent (25%), on average.

As described earlier, CalSTRS has structured its Securities Lending Program, based upon the two sources of securities lending income (the negotiated lending terms versus the income generated from the cash collateral reinvestment), to include three categories:

- Agent Lending/Agent Cash Collateral Management
- Agent Lending/CalSTRS Cash Collateral Management
- CalSTRS (Principal) Lending/CalSTRS Cash Collateral Management.

The following pie chart describes the breakdown of the $16 billion of assets which were on loan within the CalSTRS Securities Lending Program, as of March 31, 1999, by category:

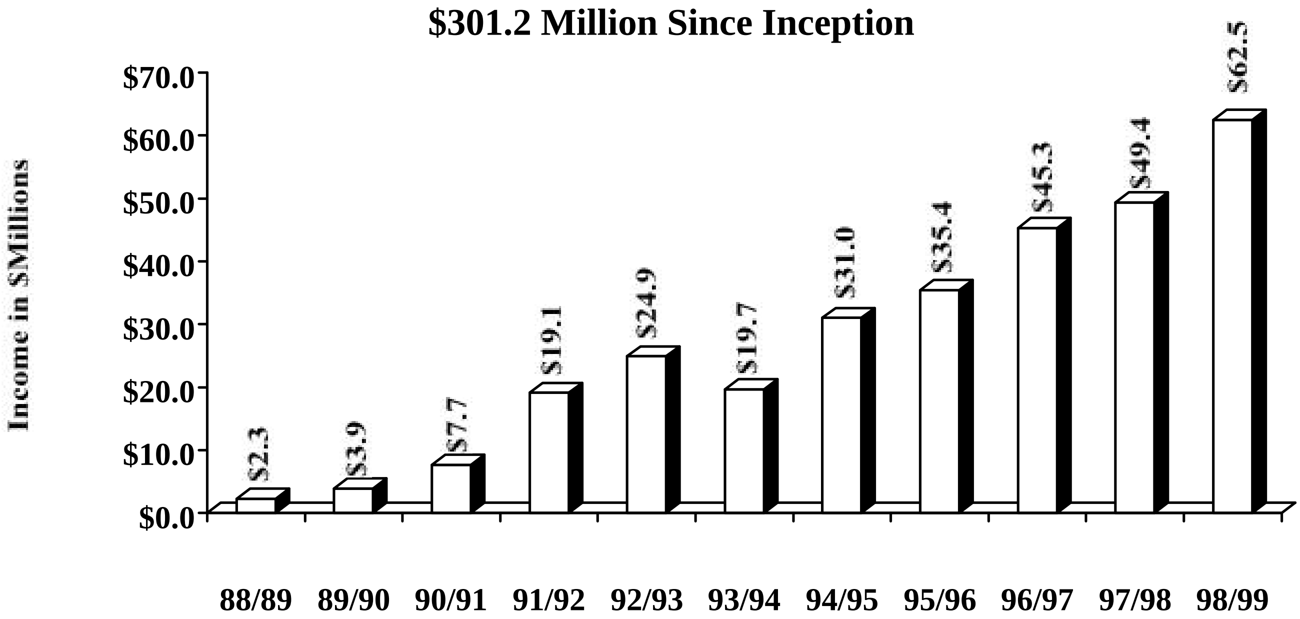
[2] A lendable asset can be defined as a security that has an established market or demand by borrowers, such as domestic and international equities and fixed income. Cash/money markets and private markets, such as real estate and alternative investments are not considered to be lendable.



Currently, there are four contractors within CalSTRS' Securities Lending Program. Two of the contractors participate on an Agent basis, managing both the lending and the collateral assets, which at this time represent more than eighty percent (80%) of the program. One of the two remaining contractors participates in the combined Agent lending/CalSTRS collateral management, and the other participates in the CalSTRS lending/CalSTRS collateral management portion of the program. Each of these contractors has been selected for its particular lending expertise and established track record within the securities lending markets. Combined, the end result is a well diversified, less volatile Securities Lending Program.

V. Performance Measurement

Although there is no generally accepted performance measurement standard by which to judge the Securities Lending Program, a process has been established in order to identify and monitor the financial contribution of the program. The chart below shows the historical levels of income received as a result of the overall Securities Lending Program. The income amounts in the graph are listed in millions of dollars.

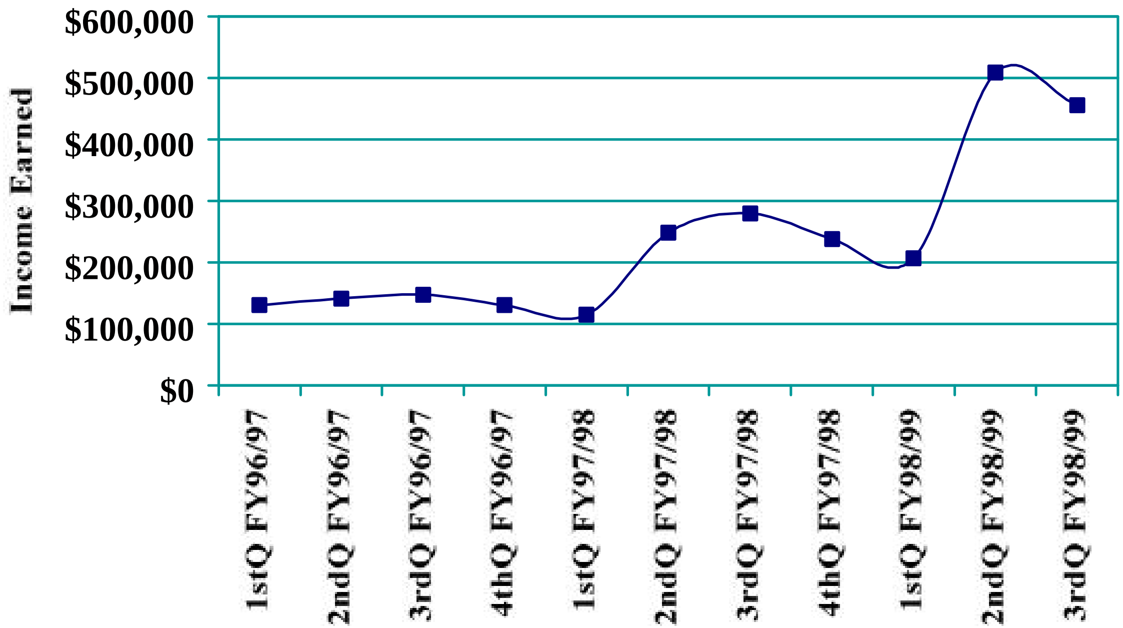


FY 98/99 Estimated

As the chart illustrates, by June 30, 1999, the Securities Lending Program is expected to have generated over $300 million in incremental income to the fund since its inception eleven years ago.

As described earlier, in 1997, the Investment Committee authorized the internal management of the cash collateral for a portion of the Securities Lending Program. As a result, part of the program was restructured to reflect that revision to the program.

CalSTRS' Internal Management Results



As the chart above illustrates, for the twelve months prior to August 1997, the Bear Stearns portion of the Securities Lending Program, which was being managed on an agent basis by Bear Stearns, averaged $137,000 in monthly net income to CalSTRS. Subsequent to the program revision authorizing internal management, the net income to CalSTRS has more than doubled, averaging $293,000 per month. As the results indicate, CalSTRS' management of a portion of the Securities Lending Program on a principal basis has clearly had a positive impact.

VI. Key Issues

The decision regarding how to design a Securities Lending Program that maintains an appropriate balance between internal and external management will have a significant impact on the amount, and quality, of incremental income provided. Internal management allows more control and a better alignment of interests. External management allows access to a wider variety of markets and opportunities. Therefore, the major issue associated with the management of CalSTRS' Securities Lending Program is the determination of a program structure designed to take advantage of the benefits of both internal and external management in a prudent manner, while taking into consideration the potential risks associated with each.

Currently, most of the Securities Lending Program (80%) is managed on an agent basis, with the contractor being responsible for both negotiating the lending terms and managing the cash collateral. The remaining portion (20%) is split evenly between a combination of the agent negotiating the lending terms, with CalSTRS managing the cash collateral, and CalSTRS both negotiating the lending terms and managing the cash collateral. Given the size of CalSTRS' lendable asset base and the competition and diversification benefits achieved through the use of multiple lenders, it is neither feasible, nor desirable to consider lending all, or even a majority, of the assets internally. Therefore, various weightings of the three approaches should be evaluated, beginning with a target weighting of 50% Agent Lending/Agent Management, with the remaining 50% representing some combination of the other two approaches. The eventual structure for CalSTRS should result in an appropriate balance, based upon a risk/reward analysis.

VII. Implementation Objectives

1. Report on the progress achieved in implementing the Securities Lending Business Plan.

2. Prepare, release and evaluate a Request for Proposal for securities lending vendors. The current contracts expire on January 31, 2000.

VIII. Staffing

The Fixed Income staff responsible for the management of the Securities Lending Program performs a variety of roles which require extensive knowledge of asset/liability management methods, a wide variety of professional and technical skills, an in-depth awareness of factors that influence the equity/fixed income finance markets, and a thorough understanding of trading techniques associated with short-term fixed income instruments. Currently, one portfolio manager is responsible for the management of CalSTRS' Securities Lending Program, with one additional staff member assisting with the analytical and reporting functions. It is anticipated that additional staffing may be needed as the complexity of the program structure increases.

California State Teachers' Retirement System
Soft Dollar Program
Business Plan

I. Role and Purpose

The Investment Branch of the California State Teachers' Retirement System (CalSTRS) established a Soft Dollar Program (Program) for the purpose of using a portion of the commissions, generated by its managers, to defray expenses which otherwise would have been incurred and paid for using budgeted funds. The term soft dollar refers to the process and the use of these commissions to pay for investment related goods and/or services from vendors by either the investment manager/advisor or the plan sponsor. In all soft dollar arrangements, the investment manager/advisor must always act for the exclusive benefit of its clients and place the clients' interest first.

II. Historical Overview

In 1985 CalSTRS adopted a Soft Dollar Policy to set guidelines for the program. The last amendment to this policy was made in 1999. Although CalSTRS is not subject to Section 28(e) of the SEC or the Employee Retirement Income Security Act of 1974 (ERSIA), the Investment Branch uses them as additional guidelines for the program.

In order to implement the use of commissions, CalSTRS established client directed arrangements with brokers, who agreed to allocate (based on a ratio), a portion of their commissions for CalSTRS' benefit. These credit balances with the third party brokers are used to defray CalSTRS' expenditures for various investment-related goods and/or services. The arrangement between CalSTRS' managers and the pool of third party brokers is referred to as a third party arrangement. Based on the credit balances of the third party brokers, and upon written authorization by CalSTRS, the broker pays for the authorized investment goods and/or services. Additionally, CalSTRS can request a rebate of these commissions (commission recapture).

III. Current Status

CalSTRS has established a pool of domestic and international brokers for its Program. Exhibit 1 is the current list of brokers participating in the Program. Annually CalSTRS instructs each external manager to direct a percentage of commissions to the brokers identified on the list for the benefit of CalSTRS. However, in all transactions the first responsibility of the manager is to obtain "best execution" for all trades.

All expenditures paid through soft dollars are review annually to assure that proper due diligence is done to determine the need for the service. The final determination is made by the Chief Investment Officer. Ad hoc requests must also document needs prior to approval. Exhibit 2 is an example of the type of goods and services typically acquired through the Program.

IV. Performance Measurement

There is not a generally accepted performance measurement standard to judge the success of the Soft Dollar Program. However some measures to consider would include; 1) improvement in ratios, 2) expansion of participants, both managers and brokers, 3) ability to pay for services as approved, and 4) performance of reconciliation among all parties.

V. Key Issues

A key issue for the Soft Dollar Program would be the expansion due to the increased number of external managers. Monitoring procedures must be formalized to assure that all external managers are in compliance with the Securities and Exchange Commissions with regard to their use of soft dollars. Additionally, the brokers must be monitored to ensure financial stability.

VI. Implementation Objectives

1. Report on implementation of the business plan concentrating on the progress of including the new domestic and international equity managers into the Program.

VII. Staffing Issues

No staffing issues are anticipated.